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OM protein - protein search, using sw model

Run on: July 10, 2002, 08:25:43 ; Search time 10.36 Seconds  
(without alignments)  
59.799 Million cell updates/sec

Title: US-09-508-054-19

Perfect score: 87  
Sequence: 1 YLRIVQCRSVEGSGF 16

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000  
Maximum Match 0%

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 150 summaries

Database : SwissProt\_40:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	83	95.4	217	1 SOMA_CALJA	Q9gmb3 callitrix
2	83	95.4	217	1 SOMA_HUMAN	P01241 homo sapien
3	83	95.4	217	1 SOMA_MACMU	P33093 macaca mula
4	83	95.4	217	1 SOMA_SAIBB	P58343 saimir bol
5	83	95.4	217	1 SOMV_HUMAN	P01242 homo sapien
6	80	92.0	217	1 PLL_HUMAN	P01243 homo sapien
7	71	81.6	217	1 SOMV_MACMU	Q07370 macaca mula
8	52.5	60.3	215	1 SOMA_MONDO	Q9g160 monodelphis
9	51.5	59.2	190	1 SOMA_BALBO	P33092 baiaenopter
10	51.5	59.2	190	1 SOMA_LAMPA	P37885 lama guanac
11	51.5	59.2	190	1 SOMA_LOXAF	P20392 loxodonta a
12	51.5	59.2	190	1 SOMA_VULVU	P10766 vulpes vulp
13	51.5	59.2	215	1 SOMA_TRIVU	O62754 trichosurus
14	51.5	59.2	216	1 SOMA_CANFA	P33711 canis famil
15	51.5	59.2	216	1 SOMA_FELCA	P46404 felis silve
16	51.5	59.2	216	1 SOMA_HORSE	P01245 equus cabal
17	51.5	59.2	216	1 SOMA_MESAU	P37886 mesocricetu
18	51.5	59.2	216	1 SOMA_MOUSE	P06880 mus musculu
19	51.5	59.2	216	1 SOMA_MUSVI	P19795 mustela vis
20	51.5	59.2	216	1 SOMA_PIG	P01248 sus scrofa
21	51.5	59.2	217	1 SOMA_GALSE	Q9gkal galago sene
22	51.5	59.2	217	1 SOMA_NYCPY	Q9gmb2 nycticebus
23	48.5	55.7	216	1 SOMA_RABIT	P46407 oryctolagus
24	47.5	54.6	216	1 SOMA_RAT	P01244 rattus norv
25	46.5	53.4	217	1 SOMA_BOVIN	P01246 bos taurus
26	46.5	53.4	217	1 SOMA_BUBBU	O18938 bubalus bub
27	46.5	53.4	217	1 SOMA_CEREL	P56437 cervus elap
28	46.5	53.4	217	1 SOMA_SHEEP	P01247 ovis aries
29	43.5	50.3	215	1 SOMA_RANCA	P10813 rana catesb
30	42	48.0	827	1 CADH_MOUSE	Q9r100 mus musculu
31	41	47.1	227	1 PPRD_RAT	P09320 rattus norv
32	41	47.1	569	1 PYRD_PLAFA	Q08210 plasmodium
33	41	47.1	1964	1 NTC4_MOUSE	P31695 mus musculu

084245	chlamydia t	34	40	46.0	354	1	LPXD_CHLTR
Q9z8n6	chlamydia p	35	40	46.0	360	1	LPXD_CHLPN
P97857	mus musculu	36	40	46.0	968	1	ATS1_MOUSE
P03261	human adeno	37	40	46.0	1056	1	DPOL_ADE02
P04495	human adeno	38	40	46.0	1056	1	DPOL_ADE05
Q93074	homo sapien	39	40	46.0	2124	1	Y192_HUMAN
P43001	bufo japoni	40	39.5	45.4	134	1	PRL_BUFJA
P26773	acipenser g	41	39.5	45.4	190	1	SOM1_ACIGU
P26774	acipenser g	42	39.5	45.4	190	1	SOM2_ACIGU
Q9w6j7	labeo rohit	43	39.5	45.4	207	1	SOMA_LABRO
Q93359	carassius a	44	39.5	45.4	210	1	SOM1_CARAU
Q93360	carassius a	45	39.5	45.4	210	1	SOM2_CARAU
P20390	ctenopharyn	46	39.5	45.4	210	1	SOMA_CTEID
P10298	cyprinus ca	47	39.5	45.4	210	1	SOMA_CYPCA
Q9w6j5	misgurnus m	48	39.5	45.4	210	1	SOMA_MISMI
P79885	lepisosteus	49	39.5	45.4	211	1	SOMA_LEPOS
Q73849	bufo marinu	50	39.5	45.4	213	1	SOMA_BUFMA
P12855	xenopus lae	51	39.5	45.4	214	1	SOMA_XENLA
P21702	rattus norv	52	39.5	45.4	230	1	PLL1_RAT
Q06221	trypanosoma	53	39.5	45.4	527	1	TH11_TRYBB
Q09037	trypanosoma	54	39.5	45.4	528	1	TH12_TRYBB
Q9g9r1	homo sapien	55	39.5	45.4	1112	1	SUS1_HUMAN
P42438	acinetobact	56	39	44.8	349	1	RECA_ACICA
Q9pkf1	chlamydia m	57	39	44.8	354	1	LPXD_CHLMU
Q09874	schizosacch	58	39	44.8	365	1	YAGB_SCHPO
P27977	archaeoglob	59	39	44.8	365	1	YN07_ARCFU
P36269	homo sapien	60	39	44.8	586	1	GGT5_HUMAN
P15920	mus musculu	61	39	44.8	856	1	VPP2_MOUSE
P35952	rattus norv	62	39	44.8	879	1	LDLR_RAT
P08899	anguilla ja	63	38.5	44.3	209	1	SOMA_ANGJA
Q75309	homo sapien	64	38.5	44.3	829	1	CADG_HUMAN
P10296	momordica c	65	38	43.7	28	1	IEL1_MOMCH
Q25531	manduca sex	66	38	43.7	348	1	VAOD_MANSE
Q9w4p5	drosophila	67	38	43.7	350	1	V0D1_DROME
P12953	homo sapien	68	38	43.7	351	1	VAOD_HUMAN
P51863	mus musculu	69	38	43.7	351	1	VAOD_MOUSE
P33091	protopterus	70	37.5	43.1	200	1	PRL_PROAT
Q73848	protopterus	71	37.5	43.1	206	1	SOMA_PROAN
P34744	esox lucius	72	37.5	43.1	209	1	SOMA_ESOLU
Q95338	oncorhynch	73	37.5	43.1	210	1	SOM1_ONCMY
P09538	oncorhynch	74	37.5	43.1	210	1	SOM1_ONCNE
Q91222	oncorhynch	75	37.5	43.1	210	1	SOM2_ONCNE
P45655	coregonus a	76	37.5	43.1	210	1	SOMA_CORAU
O13188	coregonus l	77	37.5	43.1	210	1	SOMA_CORLV
P07064	oncorhynch	78	37.5	43.1	210	1	SOMA_ONCKE
P10607	oncorhynch	79	37.5	43.1	210	1	SOMA_ONCKI
Q9d9g5	oncorhynch	80	37.5	43.1	210	1	SOMA_ONCMA
Q07221	oncorhynch	81	37.5	43.1	210	1	SOMA_ONCTS
P10814	salmo salar	82	37.5	43.1	210	1	SOMA_SALSA
P10295	momordica c	83	37	42.5	28	1	ITR2_MOMCH
P80571	mytilus gal	84	37	42.5	38	1	DEF1_MYTGA
P43960	haemophilus	85	37	42.5	86	1	Y173_HAEIN
P09586	mus musculu	86	37	42.5	222	1	PLL2_MOUSE
Q9vcq3	drosophila	87	37	42.5	350	1	V0D2_DROME
P49337	gallus gall	88	37	42.5	351	1	WNT4_CHICK
P50311	opisthorchi	89	37	42.5	415	1	PGK_OPISI
Q46372	comamonas t	90	37	42.5	457	1	BPHA_COMTE
Q52438	pseudomonas	91	37	42.5	458	1	BPA1_PSEI1
P37333	burkholderi	92	37	42.5	458	1	BPHA_BURCE
Q52028	pseudomonas	93	37	42.5	458	1	BPHA_PSEPS
P38860	saccharomyc	94	37	42.5	499	1	YHW8_YEAST
P78746	aspergillus	95	37	42.5	745	1	CHSD_ASPFU
P55281	rattus norv	96	37	42.5	827	1	CADH_RAT
Q12864	homo sapien	97	37	42.5	832	1	CADH_HUMAN
Q9wqj1	rattus norv	98	37	42.5	967	1	ATS1_RAT
Q24025	drosophila	99	37	42.5	1038	1	SOG_DROME
P01029	mus musculu	100	37	42.5	1738	1	CO4_MOUSE
P01266	homo sapien	101	37	42.5	2768	1	THYG_HUMAN
P24363	caranx deli	102	36.5	42.0	206	1	SOMA_CARDE
P27585	epizootic h	103	36.5	42.0	552	1	VNS1_EHDV2
P00627	bungarus fa	104	36	41.4	118	1	PA26_BUNFA
P00628	bungarus fa	105	36	41.4	118	1	PA2A_BUNFA
P00629	bungarus fa	106	36	41.4	118	1	PA2B_BUNFA

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107 36 41.4 212 1 AGIL_WHEAT
108 36 41.4 220 1 UPAS_RAT
109 36 41.4 221 1 PLL2_MESAU
110 36 41.4 222 1 UPAS_MOUSE
111 36 41.4 227 1 AGL_ORYSA
112 36 41.4 229 1 PRL_CHICK
113 36 41.4 236 1 PLL_SHEEP
114 36 41.4 260 1 VD10_SFEVK
115 36 41.4 274 1 RECA_NEIPH
116 36 41.4 286 1 VNSI_INCAA
117 36 41.4 286 1 VNSI_INCCA
118 36 41.4 286 1 VNST_INCGH
119 36 41.4 286 1 VNST_INCGH
120 36 41.4 286 1 VNST_INCGH
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122 36 41.4 327 1 UPAR_MOUSE
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145 36 41.4 327 1 UPAR_MOUSE
146 35.5 40.8 829 1 CADG_MOUSE
147 35.5 40.8 829 1 CADG_MOUSE
148 35 40.2 162 1 CRE_CARAU
149 35 40.2 171 1 RPB_YEAST
150 35 40.2 198 1 FAS6_RHOFA

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## ALIGNMENTS

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RESULT 1
SOMA_CALJA STANDARD; PRT; 217 AA.
AC Q9GMB3;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Callithrix jacchus (Common marmoset).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callitrix.
OX NCBI_TaxID=9483;
[1]
SEQUENCE FROM N.A.
RA Wallis O.C., Wallis M.;
RP "Cloning and characterization of a putative growth hormone encoding
RT gene from the marmoset (Callithrix jacchus).";
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

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CC or send an email to license@isb-sib.ch).
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DR EMBL: AJ297563; CAC03481.1; -
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 217 SOMATOTROPIN.
FT DISULFID 79 191 BY SIMILARITY.
FT DISULFID 208 215 BY SIMILARITY.
SQ SEQUENCE 217 AA; 24959 MW; E102151A12CE6192 CRC64;

Query Match 95.4%; Score 83; DB 1; Length 217;
Best Local Similarity 93.8%; Pred. No. 3.9e-06;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 2
SOMA_HUMAN STANDARD; PRT; 217 AA.
ID SOMA_HUMAN
AC F01241;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
[1]
SEQUENCE FROM N.A.
RP SEQUENCE FROM N.A.
RX MEDLINE=82014939; PubMed=6269091;
RA Denoto F.M., Moore D.D., Goodman H.M.;
RT "Human growth hormone DNA sequence and mRNA structure: possible
RT alternative splicing.";
RL Nucleic Acids Res. 9:3719-3730(1981).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=80034477; PubMed=386281;
RA Roskam W., Rougeon F.;
RT "Molecular cloning and nucleotide sequence of the human growth
RT hormone structural gene.";
RL Nucleic Acids Res. 7:305-320(1979).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=79203293; PubMed=377496;
RA Martial J.A., Hallewell R.A., Baxter J.D., Goodman H.M.;
RT "Human growth hormone: complementary DNA cloning and expression in
RT bacteria.";
RL Science 205:602-607(1979).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A.,
RA Gelinas R.E., Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and
RT evolution.";
RL Genomics 4:479-497(1989).

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RN [5]  
 RP SEQUENCE OF 27-217.  
 RX MEDLINE=69289202; PubMed=5810834;  
 RA Li C.H., Dixon J.S., Liu W.-K.;  
 RT "Human pituitary growth hormone. XIX. The primary structure of the  
 hormone.";  
 RL Arch. Biochem. Biophys. 133:70-91(1969).  
 RN [6]  
 RP SEQUENCE OF 27-217, AND REVISIONS.  
 RX MEDLINE=72143935; PubMed=5144027;  
 RA Li C.H., Dixon J.S.;  
 RT "Human pituitary growth hormone. 32. The primary structure of the  
 hormone: revision.";  
 RL Arch. Biochem. Biophys. 146:233-236(1971).  
 RN [7]  
 RP SEQUENCE OF 27-51 AND 104-120.  
 RX MEDLINE=71139765; PubMed=5279046;  
 RA Niall H.D.;  
 RT "Revised primary structure for human growth hormone.";  
 RL Nature New Biol. 230:90-91(1971).  
 RN [8]  
 RP REVISION.  
 RX MEDLINE=73092028; PubMed=4675454;  
 RA Bewley T.A., Dixon J.S., Li C.H.;  
 RT "Sequence comparison of human pituitary growth hormone, human  
 chorionic somatomotropin, and ovine pituitary growth and  
 lactogenic hormones.";  
 RL Int. J. Pept. Protein Res. 4:281-287(1972).  
 RN [9]  
 RP REVISION.  
 RX MEDLINE=71153968; PubMed=5279528;  
 RA Niall H.D., Hogan M.L., Sauer R.;  
 RT "Sequences of pituitary and placental lactogenic and growth hormones:  
 evolution from a primordial peptide by gene reduplication.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 68:866-869(1971).  
 RN [11]  
 RP SEQUENCE OF 27-57 AND 73-79.  
 RX MEDLINE=81117361; PubMed=7462247;  
 RA Chapman G.E., Rogers K.M., Brittain T., Bradshaw R.A., Bates O.J.,  
 RT Turner C., Cary P.D., Crane-Robinson C.;  
 RL "The 20,000 molecular weight variant of human growth hormone.  
 Preparation and some physical and chemical properties.";  
 RL J. Biol. Chem. 256:2395-2401(1981).  
 RN [12]  
 RP SEQUENCE OF 46-57 AND 73-80.  
 RX MEDLINE=80130196; PubMed=7356479;  
 RA Lewis U.J., Bonewald L.F., Lewis L.J.;  
 RT "The 20,000-dalton variant of human growth hormone: location of the  
 amino acid deletions.";  
 RL Biochem. Biophys. Res. Commun. 92:511-516(1980).  
 RN [13]  
 RP 3D-STRUCTURE MODELING.  
 RX MEDLINE=88190073; PubMed=3447173;  
 RA Cohen F.E., Kuntz I.D.;  
 RT "Prediction of the three-dimensional structure of human growth  
 hormone.";  
 RL Proteins 2:162-166(1987).  
 RN [14]  
 RP X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).  
 RX MEDLINE=92196377; PubMed=1549776;  
 RA de Vos A.M., Uitsch M., Kossiakoff A.A.;  
 RT "Human growth hormone and extracellular domain of its receptor:  
 crystal structure of the complex.";  
 RL Science 255:306-312(1992).  
 RN [15]  
 RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

RX MEDLINE=95075462; PubMed=7984244;  
 RA Somers W., Uitsch M., de Vos A.M., Kossiakoff A.A.;  
 RT "The X-ray structure of a growth hormone-prolactin receptor complex.";  
 RL Nature 372:478-481(1994).  
 RN [16]  
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).  
 RA Chantalat L., Chirgadze N.Y., Jones N., Korber F., Navaza J.,  
 RA Pavlovsk A.G., Wlodawer A.;  
 RT "The crystal-structure of wild-type growth-hormone at 2.5-A  
 resolution.";  
 RL Protein Pept. Lett. 2:333-340(1995).  
 RN [17]  
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).  
 RX MEDLINE=97113023; PubMed=8943276;  
 RA Sundstroem M., Lundqvist T., Roedin J., Giebel L.B., Milligan D.,  
 RA Norstedt G.;  
 RT "Crystal structure of an antagonist mutant of human growth hormone,  
 G120R, in complex with its receptor at 2.9-A resolution.";  
 RL J. Biol. Chem. 271:32197-32203(1996).  
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
 CONTROL.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- ALTERNATIVE PRODUCTS: A 20 kDa SHORT VARIANT WHICH LACKS 58-72 IS  
 PRODUCED AS THE RESULT OF SPLICING AT THE ALTERNATE JUNCTION  
 OF THE SECOND INTRON.  
 CC -!- DISEASE: DEFECTS IN GH1 ARE A CAUSE OF PITUITARY DWARFISM I AND  
 IV.  
 CC -!- PHARMACEUTICAL: Available under the names Nutropin or Protropin  
 (Genentech), Norditropin (Novo Nordisk), Genotropin (Pharmacia  
 Upjohn), Humatrope (Eli Lilly) and Saizen or Serostim (Serono).  
 CC Used for the treatment of growth hormone deficiency and for  
 Turner's syndrome.  
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

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EMBL; V00519; CAA23778.1; -  
 DR EMBL; J03071; AAA52549.1; -  
 DR EMBL; M13438; AAA98618.1; -  
 DR EMBL; A12770; CAA01057.1; -  
 DR EMBL; A00469; CAA00065.1; -  
 DR PIR; A01510; STHU.  
 DR PIR; A32435; A32435.  
 DR PDB; 3HHR; 30-APR-94.  
 DR PDB; 1H0W; 31-JAN-94.  
 DR PDB; 1HGU; 07-DEC-95.  
 DR PDB; 1HWG; 19-NOV-97.  
 DR PDB; 1HWH; 19-NOV-97.  
 DR PDB; 1AXI; 28-JAN-98.  
 DR PDB; 1A22; 29-APR-98.  
 DR PDB; 1BP3; 23-SEP-98.  
 DR MIM; 139250; -  
 DR MIM; 262400; -  
 DR MIM; 282650; -  
 DR InterPro; IPR001400; SOMATOTROPIN.  
 DR Pfam; PF00103; hormone; 1.  
 DR PRINTS; PR00836; SOMATOTROPIN.  
 DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
 DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
 KW Pituitary; Hormone; Alternative splicing; Signal; 3D-structure;  
 KW Dwarfism; Pharmaceutical; Polymorphism.  
 FT SIGNAL 1 26  
 FT CHAIN 27 217 SOMATOTROPIN.  
 FT DISULFID 79 191  
 FT DISULFID 208 215  
 FT VARSPPLIC 58 72 MISSING (IN 20 KDA ISOFORM).  
 FT VARIANT 3 3 T -> A (IN DBSNP:2001345).

FT VARIANT 105 105 /FTID=VAR\_011917.  
FT S -> C (IN DBSNP:6174).  
FT /FTID=VAR\_011918:5388).  
FT V -> I (IN DBSNP:5388).  
FT /FTID=VAR\_011919.

FT HELIX 32 61  
FT HELIX 64 72  
FT TURN 76 77  
FT TURN 80 83  
FT TURN 90 94  
FT TURN 95 95  
FT HELIX 98 110  
FT TURN 111 114  
FT TURN 111 114  
FT HELIX 115 125

Query Match 95.4%; Score 83; DB 1; Length 217;  
Best Local Similarity 93.8%; Pred. No. 3.9e-06;  
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16  
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 3  
SOMA\_MACMU STANDARD; PRT; 217 AA.  
AC P33093;

DT 01-OCT-1993 (Rel. 27, Created)  
DT 01-OCT-1994 (Rel. 30, Last sequence update)  
DT 01-FEB-1996 (Rel. 33, Last annotation update)  
DE Somatotropin precursor (Growth hormone).

GN GH1.  
OS Macaca mulatta (Rhesus macaque).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;  
OC Cercopithecoidea; Macaca.

OX NCBI\_TaxID=9544;

RN [1]  
RP SEQUENCE FROM N.A.

RX MEDLINE=94008724; PubMed=8404617;  
RA Golos T.G., Durning M., Fisher J.M., Fowler P.D.;

RT "Cloning of four growth hormone/chorionic somatomammotropin-related  
complementary deoxyribonucleic acids differentially expressed during  
pregnancy in the rhesus monkey placenta.";  
RL Endocrinology 133:1744-1752(1993).  
RN [2]

RP SEQUENCE OF 27-217.

RX MEDLINE=86129460; PubMed=3080959;

RA Li C.H., Chung D., Lahm H.W., Stein S.;

RT "The primary structure of monkey pituitary growth hormone.";

RL Arch. Biochem. Biophys. 245:287-291(1986).

CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CONTROL.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

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or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC EMBL; L16556; AAA18842.1; -

DR HSP; A05094; A05094.

DR HSP; P01241; 1HWG.

DR InterPro; IPR001400; SOMATOTROPIN.

DR Pfam; PF00103; hormone; 1.

DR PRINTS; PR00836; SOMATOTROPIN.

DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.

DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.

KW Hormone; Pituitary; Signal.

FT SIGNAL 1 26

FT CHAIN 27 217 SOMATOTROPIN.

FT DISULFID 79 191 BY SIMILARITY.

FT DISULFID 208 215 BY SIMILARITY.

FT CONFLICT 100 100 E -> Q (IN REF. 2).

FT CONFLICT 179 179 N -> D (IN REF. 2).

SQ SEQUENCE 217 AA; 24913 MW; 2C5180341EEC46D0 CRC64;

Query Match 95.4%; Score 83; DB 1; Length 217;  
Best Local Similarity 93.8%; Pred. No. 3.9e-06;  
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16  
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 4  
SOMA\_SAIBB STANDARD; PRT; 217 AA.

ID P58343;

DT 01-MAR-2002 (Rel. 41, Created)

DT 01-MAR-2002 (Rel. 41, Last sequence update)

DT 01-MAR-2002 (Rel. 41, Last annotation update)

DE Somatotropin precursor (Growth hormone).

GN GH1.

OS Saimiri boliviensis boliviensis (Bolivian squirrel monkey).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Saimiri.

OX NCBI\_TaxID=39432;

RN [1]  
RP SEQUENCE FROM N.A.

RX MEDLINE=21265430; PubMed=11371582;

RA Liu J.C., Makova K.D., Adkins R.M., Gibson S., Li W.H.;

RT "Episodic evolution of growth hormone in primates and emergence of the  
species specificity of human growth hormone receptor.";  
RL Mol. Biol. Evol. 18:945-953(2001).

CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CONTROL.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

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or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

DR EMBL; AF339060; AAK62287.1; -

DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.

DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.

KW Hormone; Pituitary; Signal.

FT SIGNAL 1 26 BY SIMILARITY.

FT CHAIN 27 217 SOMATOTROPIN.

FT DISULFID 79 191 BY SIMILARITY.

FT DISULFID 208 215 BY SIMILARITY.

SQ SEQUENCE 217 AA; 24864 MW; 9515289992C529F7 CRC64;

Query Match 95.4%; Score 83; DB 1; Length 217;  
Best Local Similarity 93.8%; Pred. No. 3.9e-06;  
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16  
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 5

SOMV\_HUMAN.  
ID SOMV\_HUMAN STANDARD; PRT; 217 AA.  
AC P01242;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 01-AUG-1991 (Rel. 19, Last sequence update)  
DT 16-OCT-2001 (Rel. 40, Last annotation update)  
DE Growth hormone variant I precursor (GH-V) (Placenta-specific growth hormone).  
GN GH2.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Euthera; Primates; Catarrhini; Hominidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=89307277; PubMed=2744760;  
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A.,  
RA Gellinas R.E., Seeburg P.H.;  
RT "The human growth hormone locus: nucleotide sequence, biology, and evolution.";  
RL Genomics 4:479-497(1989).  
RN [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=88243769; PubMed=3379057;  
RA Cooke N.E., Ray J., Emery J.G., Liebhaber S.A.;  
RT "Two distinct species of human growth hormone-variant mRNA in the human placenta predict the expression of novel growth hormone proteins.";  
RL J. Biol. Chem. 263:9001-9006(1988).  
RN [3]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=83182010; PubMed=7169009;  
RA Seeburg P.H.;  
RT "The human growth hormone gene family: nucleotide sequences show recent divergence and predict a new polypeptide hormone.";  
RL DNA 1:239-249(1982).  
RN [4]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=89024984; PubMed=2460050;  
RA Igout A., Scippo M.L., Franckne F., Hennen G.;  
RT "Cloning and nucleotide sequence of placental hGH-V cDNA.";  
RL Arch. Int. Physiol. Biochim. 96:63-67(1988).  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- ALTERNATIVE PRODUCTS: Two GROWTH HORMONE VARIANTS ARE PRODUCED BY ALTERNATIVE SPLICING OF THE SAME GENE.  
CC -!- TISSUE SPECIFICITY: THIS PROTEIN SEEMS TO BE EXPRESSED IN THE PLACENTA.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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CC -----  
DR EMBL: K00470; AAA98619.1; -  
DR EMBL: J03756; AAB59548.1; -  
DR EMBL: J03071; AAB52552.1; -  
DR EMBL: M38451; AAA35891.1; -  
DR PIR: A01511; STHUV.  
DR PIR: B28072; B28072.  
DR PIR: D32435; D32435.  
DR HSP: P01241; 1HWH.  
DR MIM: 139240; -  
DR InterPro: IPR001400; SOMATOTROPIN.  
DR Pfam: PF00103; hormone; 1.  
DR PRINTS: PR00836; SOMATOTROPIN.  
DR PROSITE: PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE: PS00333; SOMATOTROPIN\_2; 1.  
KW Hormone; Placenta; Signal; Glycoprotein; Alternative splicing.  
FT SIGNAL 1 26

FT CHAIN 27 217 GROWTH HORMONE VARIANT I.  
FT DISULFID 79 191 BY SIMILARITY.  
FT DISULFID 208 215 BY SIMILARITY.  
FT CARBOHYD 166 166 N-LINKED (GLCNAC... ) (POTENTIAL).  
FT CONFLICT 35 35 L -> P (IN REF. 3).  
FT CONFLICT 109 109 T -> I (IN REF. 2 AND 4).  
SQ SEQUENCE 217 AA; 24987 MW; 40FE8620A5138DIC CRC64;  
  
Query Match 95.4%; Score 83; DB 1; Length 217;  
Best Local Similarity 93.8%; Pred No. 3.9e-06;  
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 1 YLRIVQCRSVEGSGF 16  
DB 202 FLRIVQCRSVEGSGF 217  
:|||||  
  
RESULT 6  
PLL\_HUMAN STANDARD; PRT; 217 AA.  
ID PLL\_HUMAN  
AC P01243;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 01-APR-1988 (Rel. 07, Last sequence update)  
DT 16-OCT-2001 (Rel. 40, Last annotation update)  
DE Lactogen precursor (Choriomammotropin) (Chorionic somatomammotropin).  
GN CSH1 AND CSH3.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Euthera; Primates; Catarrhini; Hominidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A. (GENE CSH1).  
RX MEDLINE=85030426; PubMed=6208192;  
RA Selby M.J., Barta A., Baxter J.D., Bell G.I., Eberhardt N.L.;  
RT "Analysis of a major human chorionic somatomammotropin gene. Evidence for two functional promoter elements.";  
RL J. Biol. Chem. 259:13131-13138(1984).  
RN [2]  
RP SEQUENCE FROM N.A. (GENE CSH3).  
RX MEDLINE=87161235; PubMed=3030680;  
RA Hirt H., Kimelman J., Birnbaum M.J., Chen E.Y., Seeburg P.H.,  
RA Eberhardt N.L., Barta A.;  
RT "The human growth hormone gene locus: structure, evolution, and allelic variations.";  
RL DNA 6:59-70(1987).  
RN [3]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=83160916; PubMed=6300056;  
RA Barrera-Saldana H.A., Seeburg P.H., Saunders G.F.;  
RT "Two structurally different genes produce the same secreted human placental lactogen hormone.";  
RL J. Biol. Chem. 258:3787-3793(1983).  
RN [4]  
RP SEQUENCE FROM N.A. (GENES CSH1 AND CSH3).  
RX MEDLINE=89307277; PubMed=2744760;  
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gellinas R.E.,  
RA Seeburg P.H.;  
RT "The human growth hormone locus: nucleotide sequence, biology, and evolution.";  
RL Genomics 4:479-497(1989).  
RN [5]  
RP SEQUENCE.  
RX MEDLINE=83182010; PubMed=7169009;  
RA Seeburg P.H.;  
RT "The human growth hormone gene family: nucleotide sequences show recent divergence and predict a new polypeptide hormone.";  
RL DNA 1:239-249(1982).  
RN [6]  
RP SEQUENCE OF 50-217 FROM N.A.  
RX MEDLINE=78071761; PubMed=593368;  
RA Shine J., Seeburg P.H., Martial J.A., Baxter J.D., Goodman H.M.;  
RT "Construction and analysis of recombinant DNA for human chorionic



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RA Yudaev N.A., Pankov Y.A., Bulatov A.A., Osipova T.A.;
RT "Amino acid sequence of seiwhale somatotropin.";
RL Biokhimiia 47:1059-1069(1982).
RN [2]
RP PRELIMINARY PARTIAL SEQUENCE.
RA Osipova T.A., Bulatov A.A., Pankov Y.A.;
RT "Structural studies of tryptic peptides from large cyanogen bromide
fragments of sei whale (Balainoptera borealis) somatotropin.";
RL Bioorg. Khim. 4:1589-1599(1978).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; P01246; 1BST.
DR PIR; JN0387; JN0387.
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21835 MW; 09BFF6DB14A75D6 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred. No. 0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::||| ||||
DB 174 YLRVVKCRFEVSSCAF 190

RESULT 10
SOMA_LAMPA
ID SOMA_LAMPA STANDARD; PRT; 190 AA.
AC P37885.
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Somatotropin (Growth hormone).
GN GH1.
OS Lama guanicoe pacos (Alpaca).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
OX NCBI_TaxID=30538;
RN [1]
RP SEQUENCE.
RX MEDLINE=92104767; PubMed=1761365;
RA de Jimenez Bonino M.B., de Nue I.A., Ore R., Sanchez D., Ferrara P.,
RA Capdevielle J., Cascone O.;
RT "Primary structure of alpaca growth hormone.";
RL Int. J. Pept. Protein Res. 38:193-197(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; A61584; A61584.
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21789 MW; A7C67266AB8B96A10 CRC64;

RA Yudaev N.A., Pankov Y.A., Bulatov A.A., Osipova T.A.;
RT "Amino acid sequence of seiwhale somatotropin.";
RL Biokhimiia 47:1059-1069(1982).
RN [2]
RP PRELIMINARY PARTIAL SEQUENCE.
RA Osipova T.A., Bulatov A.A., Pankov Y.A.;
RT "Structural studies of tryptic peptides from large cyanogen bromide
fragments of sei whale (Balainoptera borealis) somatotropin.";
RL Bioorg. Khim. 4:1589-1599(1978).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; P01246; 1BST.
DR PIR; JN0387; JN0387.
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21835 MW; 09BFF6DB14A75D6 CRC64;

Query Match 60.3%; Score 52.5; DB 1; Length 215;
Best Local Similarity 58.8%; Pred. No. 0.22;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::||| ||||
DB 199 YLRVVKCRFEVSSCAF 215

RESULT 9
SOMA_BALBO
ID SOMA_BALBO STANDARD; PRT; 190 AA.
AC P33092.
DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1993 (Rel. 27, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Somatotropin (Growth hormone).
GN GH1.
OS Balainoptera borealis (Sei whale).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Cetacea; Mysticeti;
OC Balainopteridae; Balainoptera.
OX NCBI_TaxID=9768;
RN [1]
RP SEQUENCE.
RX MEDLINE=83000569; PubMed=7115813;
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RA Yudaev N.A., Pankov Y.A., Bulatov A.A., Osipova T.A.;
RT "Amino acid sequence of seiwhale somatotropin.";
RL Biokhimiia 47:1059-1069(1982).
RN [2]
RP PRELIMINARY PARTIAL SEQUENCE.
RA Osipova T.A., Bulatov A.A., Pankov Y.A.;
RT "Structural studies of tryptic peptides from large cyanogen bromide
fragments of sei whale (Balainoptera borealis) somatotropin.";
RL Bioorg. Khim. 4:1589-1599(1978).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; P01246; 1BST.
DR PIR; JN0387; JN0387.
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21835 MW; 09BFF6DB14A75D6 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred. No. 0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::||| ||||
DB 174 YLRVVKCRFEVSSCAF 190

RESULT 10
SOMA_LAMPA
ID SOMA_LAMPA STANDARD; PRT; 190 AA.
AC P37885.
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Somatotropin (Growth hormone).
GN GH1.
OS Lama guanicoe pacos (Alpaca).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
OX NCBI_TaxID=30538;
RN [1]
RP SEQUENCE.
RX MEDLINE=92104767; PubMed=1761365;
RA de Jimenez Bonino M.B., de Nue I.A., Ore R., Sanchez D., Ferrara P.,
RA Capdevielle J., Cascone O.;
RT "Primary structure of alpaca growth hormone.";
RL Int. J. Pept. Protein Res. 38:193-197(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; A61584; A61584.
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21789 MW; A7C67266AB8B96A10 CRC64;
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Query Match          59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred. No. 0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
   |||::|| || || |
Db 174 YLRVMKCRREVSSECAF 190

RESULT 11
SOMA_LOXAF
ID SOMA_LOXAF STANDARD; PRT; 190 AA.
AC P20392;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Somatotropin (Growth hormone).
GN GHI.
OS Loxodonta africana (African elephant).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Proboscidea; Elephantidae; Loxodonta.
OX NCBI_TaxID=9785;
RN [1]
RP SEQUENCE.
RA Hulmes J.D., Miedel M.C., Li C.H., Pan Y.C.E.;
RT "Primary structure of elephant growth hormone.";
RL Int. J. Pept. Protein Res. 33:368-372(1989).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR InterPro: IPR001400; SOMATOTROPIN.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21761 MW; 05B860813DB741F2 CRC64;

Query Match          59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred. No. 0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
   |||::|| || || |
Db 174 YLRVMKCRREVSSECAF 190

RESULT 12
SOMA_VULVU
ID SOMA_VULVU STANDARD; PRT; 190 AA.
AC P10766;
DT 01-JUL-1989 (Rel. 11, Created)
DT 01-JUL-1989 (Rel. 11, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Somatotropin (Growth hormone).
GN GHI.
OS Vulpes vulpes (Red fox).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Vulpes.
OX NCBI_TaxID=9627;
RN [1]
RP SEQUENCE.
RC TISSUE=Pituitary;
RX MEDLINE=89254275; PubMed=2722401;
RA Li C.H., Idebski J., Chung D.;
RT "Primary structure of fox pituitary growth hormone.";
RL Int. J. Pept. Protein Res. 33:70-72(1989).
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```
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR: JS0429; JS0429.
DR HSSP: P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21731 MW; 14F37B9C1CBB802C CRC64;

Query Match          59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred. No. 0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
   |||::|| || || |
Db 174 YLRVMKCRREVSSECAF 190

RESULT 13
SOMA_TRIVU
ID SOMA_TRIVU STANDARD; PRT; 215 AA.
AC O62754;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 15-JUL-1999 (Rel. 38, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI.
OS Trichosurus vulpecula (Brush-tailed possum).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Diprotodontia; Phalangeridae; Trichosurus.
OX NCBI_TaxID=9337;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=98325478; PubMed=9653023;
RA Saunders M.C., Deakin J., Harrison G.A., Curlewis J.D.;
RT "cDNA cloning of growth hormone from the brushtail possum
   (Trichosurus vulpecula).";
RL Gen. Comp. Endocrinol. 111:68-75(1998).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC or send an email to license@isb-sib.ch).
DR EMBL: AF052192; AAC08986.1; -.
DR HSSP: P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 25 BY SIMILARITY.
FT CHAIN 26 215 SOMATOTROPIN.
FT DISULFID 77 188 BY SIMILARITY.
FT DISULFID 205 213 BY SIMILARITY.
SQ SEQUENCE 215 AA; 24353 MW; F2410B5B4A7352D1 CRC64;
```



Query Match 59.2%; Score 51.5; DB 1; Length 215;  
Best Local Similarity 58.8%; Pred. No. 0.32;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
DB 199 YLRVMKCRFEVSSCAF 215

RESULT 14  
SOMA\_CANFA STANDARD; PRT; 216 AA.  
AC P33711; Q9TQT6;  
DT 01-FEB-1994 (Rel. 28, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 16-OCT-2001 (Rel. 40, Last annotation update)  
DE Somatotropin precursor (growth hormone).  
GN GH1 OR GH.  
OS Canis familiaris (Dog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
OX NCBI\_TaxID=9615;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=94266166; PubMed=8206387;  
RA Ascacio-Martinez J.A., Barrera-Saldana H.A.;  
RT "A dog growth hormone cDNA codes for a mature protein identical to  
pig growth hormone.";  
RL Gene 143:277-280(1994).  
RN [2]  
RP SEQUENCE FROM N.A.  
RA van Leeuwen I.S., Teske E., van Garderen E., Rutteman G.R., Mol J.A.;  
RT "Extrapituitary growth hormone expression in the dog is initiated at  
the normal pituitary transcription start site in the mammary gland and  
at multiple upstream sites in lymphoid cells.";  
RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.  
RN [3]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Mammary gland;  
RX MEDLINE=99337113; PubMed=10411306;  
RA Lanning-van Leeuwen I.S., Oudshoorn M., Mol J.A.;  
RT "Canine mammary growth hormone gene transcription initiates at the  
pituitary-specific start site in the absence of Pit-1.";  
RL Mol. Cell. Endocrinol. 150:121-128(1999).  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CONTROL.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
CC  
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or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC  
DR EMBL; 223067; CA880601.1; -;  
DR EMBL; U92533; AF21502.1; -;  
DR EMBL; AF069071; AAD43366.1; -;  
DR PIR; S35790; S35790.  
DR HSP; P01246; 1BST.  
DR InterPro: IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 BY SIMILARITY.  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
FT PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 BY SIMILARITY.  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT DISULFID 206 214 BY SIMILARITY.

FT CONFLICT 4 4 S -> G (IN REF. 1).  
FT CONFLICT 7 7 N -> T (IN REF. 1).  
SQ SEQUENCE 216 AA; 24468 MW; ABAD1DD59F1DAAED CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;  
Best Local Similarity 58.8%; Pred. No. 0.32;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
DB 200 YLRVMKCRFEVSSCAF 216

RESULT 15  
SOMA\_FELCA STANDARD; PRT; 216 AA.  
AC P46404;  
DT 01-NOV-1995 (Rel. 32, Created)  
DT 01-NOV-1995 (Rel. 32, Last sequence update)  
DT 15-JUL-1999 (Rel. 38, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1.  
OS Felis silvestris catus (Cat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.  
OX NCBI\_TaxID=9685;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary;  
RX MEDLINE=96194906; PubMed=8654953;  
RA Warren W.C., Bentle K.A., Bogosian G.;  
RT "Cloning of the cDNAs coding for cat growth hormone and prolactin.";  
RL Gene 168:247-249(1996).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary;  
RX MEDLINE=95369713; PubMed=7642118;  
RA Castro-Peralta F., Barrera-Saldana H.A.;  
RT "Cloning and sequencing of cDNA encoding the cat growth hormone.";  
RL Gene 160:311-312(1995).  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CONTROL.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC  
DR EMBL; U25973; AAA67294.1; -;  
DR EMBL; U13390; AAA96142.1; -;  
DR HSP; P01246; 1BST.  
DR InterPro: IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 BY SIMILARITY.  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT DISULFID 206 214 BY SIMILARITY.  
FT CONFLICT 7 7 N -> T (IN REF. 2).  
FT CONFLICT 26 26 T -> A (IN REF. 2).  
FT CONFLICT 159 159 G -> A (IN REF. 2).  
FT CONFLICT 181 181 L -> P (IN REF. 2).  
SQ SEQUENCE 216 AA; 24454 MW; 05820239A7D292C6 CRC64;

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Query Match          59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
    |||::|| | | | |
Db 200 YLRVMKCRREVESCAF 216

RESULT 16
SOMA_HORSE
ID SOMA_HORSE STANDARD; PRT; 216 AA.
AC P01245;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=94266171; PubMed=8206392;
RA Ascacio-Martinez J.A., Barrera-Saidana H.A.;
RT "Sequence of a cDNA encoding horse growth hormone.";
RL Gene 143:299-300(1994).
RN [2]
RP SEQUENCE OF 27-216.
RX MEDLINE=77005410; PubMed=965151;
RA Zakin M.M., Poskus E., Langton A.A., Ferrara P., Santome J.A.,
RA Dellacha J.M., Paladini A.C.;
RT "Primary structure of equine growth hormone.";
RL Int. J. Pept. Protein Res. 8:435-444(1976).
RN [3]
RP PRELIMINARY SEQUENCE OF 27-216.
RX MEDLINE=74020362; PubMed=4747849;
RA Zakin M.M., Poskus E., Dellacha J.M., Paladini A.C., Santome J.A.;
RT "The amino acid sequence of equine growth hormone.";
RL FEBS Lett. 34:353-355(1973).
RN [4]
RP SEQUENCE OF 68-95 AND 183-216.
RA Zakin M.M., Poskus E., Dellacha J.M., Paladini A.C., Santome J.A.;
RT "Amino acid sequences around the cystine residues in equine growth hormone.";
RL FEBS Lett. 25:77-82(1972).
RN [5]
RP SEQUENCE OF 202-216.
RX MEDLINE=68368390; PubMed=4876100;
RA Oliver L., Hartree A.S.;
RT "Amino acid sequences around the cystine residues in horse growth hormone.";
RL Biochem. J. 109:19-24(1968).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
CC EMBL; S66299; AAB20368.1; -.
CC PIR; B49159; B49159.
CC HSSP; P01246; 1BST.
CC InterPro; IPR001400; SOMATOTROPIN.
CC Pfam; PF00103; hormone; 1.
CC PRINTS; PR00836; SOMATOTROPIN.
CC PROSITE; PS00266; SOMATOTROPIN_1; 1.
CC PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24690 MW; 3B69CE32AB6F1166 CRC64;

Query Match          59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
    |||::|| | | | |
Db 200 YLRVMKCRREVESCAF 216

RESULT 17
SOMA_MESAU
ID SOMA_MESAU STANDARD; PRT; 216 AA.
AC P37886;
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI OR GH.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Cricetinae;
OX Mesocricetus
OX NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92063850; PubMed=1954881;
RA Southard J.N., Sanchez-Jimenez F., Campbell G.T., Talamantes F.;
RT "Sequence and expression of hamster prolactin and growth hormone messenger RNAs.";
RL Endocrinology 129:2965-2971(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC EMBL; S66299; AAB20368.1; -.
CC PIR; B49159; B49159.
CC HSSP; P01246; 1BST.
CC InterPro; IPR001400; SOMATOTROPIN.
CC Pfam; PF00103; hormone; 1.
CC PRINTS; PR00836; SOMATOTROPIN.
CC PROSITE; PS00266; SOMATOTROPIN_1; 1.
CC PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24690 MW; 3B69CE32AB6F1166 CRC64;

Query Match          59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
    |||::|| | | | |
Db 200 YLRVMKCRREVESCAF 216

RESULT 18
SOMA_HORSE
ID SOMA_HORSE STANDARD; PRT; 216 AA.
AC P01245;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=94266171; PubMed=8206392;
RA Ascacio-Martinez J.A., Barrera-Saidana H.A.;
RT "Sequence of a cDNA encoding horse growth hormone.";
RL Gene 143:299-300(1994).
RN [2]
RP SEQUENCE OF 27-216.
RX MEDLINE=77005410; PubMed=965151;
RA Zakin M.M., Poskus E., Langton A.A., Ferrara P., Santome J.A.,
RA Dellacha J.M., Paladini A.C.;
RT "Primary structure of equine growth hormone.";
RL Int. J. Pept. Protein Res. 8:435-444(1976).
RN [3]
RP PRELIMINARY SEQUENCE OF 27-216.
RX MEDLINE=74020362; PubMed=4747849;
RA Zakin M.M., Poskus E., Dellacha J.M., Paladini A.C., Santome J.A.;
RT "The amino acid sequence of equine growth hormone.";
RL FEBS Lett. 34:353-355(1973).
RN [4]
RP SEQUENCE OF 68-95 AND 183-216.
RA Zakin M.M., Poskus E., Dellacha J.M., Paladini A.C., Santome J.A.;
RT "Amino acid sequences around the cystine residues in equine growth hormone.";
RL FEBS Lett. 25:77-82(1972).
RN [5]
RP SEQUENCE OF 202-216.
RX MEDLINE=68368390; PubMed=4876100;
RA Oliver L., Hartree A.S.;
RT "Amino acid sequences around the cystine residues in horse growth hormone.";
RL Biochem. J. 109:19-24(1968).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
CC EMBL; U02929; AAA21027.1; -.
CC PIR; A01514; STHO.
CC HSSP; P01246; 1BST.
CC InterPro; IPR001400; SOMATOTROPIN.
```

Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
||||:| | | |  
Db 200 YLRVMKRRFVESSCAF 216

RESULT 18  
SOMA\_MOUSE  
ID SOMA\_MOUSE STANDARD; PRT; 216 AA.  
AC P06880;  
DT 01-JAN-1988 (Rel. 06, Created)  
DT 01-JAN-1988 (Rel. 06, Last sequence update)  
DT 15-JUL-1998 (Rel. 36, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1 OR GH.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
OX NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=85261358; PubMed=2991252;  
RA Linzer D.I.H., Talamantes F.;  
RT "Nucleotide sequence of mouse prolactin and growth hormone mRNAs and expression of these mRNAs during pregnancy.";  
RL J. Biol. Chem. 260:9574-9579(1985).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC STRAIN=FZTDU; TISSUE=Liver;  
RX MEDLINE=96194803; PubMed=8647448;  
RA Das P., Meyer L., Seyfert H.-M., Brockmann G., Schwerin M.;  
RT "Structure of the growth hormone-encoding gene and its promoter in mice.";  
RL Gene 169:209-213(1996).  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.

CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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DR EMBL; X02891; CAA26650.1; -;  
DR EMBL; Z46663; CAA86658.1; -;  
DR PIR; B23911; STMS.  
DR HSSP; P01246; 1BST.  
DR MGD; MGI:95707; Gh.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 BY SIMILARITY.  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT DISULFID 206 214 BY SIMILARITY.  
SQ SEQUENCE 216 AA; 24716 MW; 98666A3AE25D56FC CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;  
Best Local Similarity 58.8%; Pred. No. 0.32;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
||||:| | | |  
Db 200 YLRVMKRRFVESSCAF 216

RESULT 19  
SOMA\_MUSVI  
ID SOMA\_MUSVI STANDARD; PRT; 216 AA.  
AC P19795;  
DT 01-FEB-1991 (Rel. 17, Created)  
DT 01-FEB-1991 (Rel. 17, Last sequence update)  
DT 01-FEB-1996 (Rel. 33, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1 OR GH.  
OS Mustela vison (American mink).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;  
OC Mustela.  
OX NCBI\_TaxID=9667;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary;  
RX MEDLINE=91057130; PubMed=2243786;  
RA Shoji K., Ohara E., Watahiki M., Yoneda Y.;  
RT "Cloning and nucleotide sequence of a cDNA encoding the mink growth hormone.";  
RL Nucleic Acids Res. 18:6424-6424(1990).  
RN [2]  
RP SEQUENCE OF 27-216 FROM N.A.  
RX MEDLINE=91097549; PubMed=2268323;  
RA Harada Y., Tatsumi H., Nakano E., Umezu M.;  
RT "Cloning and sequence analysis of mink growth hormone cDNA.";  
RL Biochem. Biophys. Res. Commun. 173:1200-1204(1990).  
RN [3]  
RP SEQUENCE OF 26-216 FROM N.A.  
RA Perelygina L.M., Baricheva E.M., Sebeleva T.E., Kokoza V.A.;  
RL Submitted (XXI-1992) to the EMBL/GenBank/DBI databases.  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.

CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
CC  
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CC

DR EMBL; X56120; CAA39585.1; -;  
DR EMBL; M62901; AAA30964.1; -;  
DR EMBL; X59786; CAA42448.1; -;  
DR PIR; A37782; A37782.  
DR PIR; S12128; S12128.  
DR HSSP; P01246; 1BST.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 BY SIMILARITY.  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT DISULFID 206 214 BY SIMILARITY.  
SQ SEQUENCE 216 AA; 24469 MW; A75B96AC94EC257F CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;  
Best Local Similarity 58.8%; Pred. No. 0.32;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
||||:| | | |  
Db 200 YLRVMKRRFVESSCAF 216

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RESULT 20
SOMA_PIG
ID SOMA_PIG STANDARD; PRT; 216 AA.
AC P01248; Q28958; Q29045;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1989 (Rel. 10, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88030700; PubMed=3666458;
RA Vize P.D., Wells J.R.E.;
RT "Isolation and characterization of the porcine growth hormone gene.";
RL Gene 55:339-344(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=90212663; PubMed=2182128;
RA Kato Y., Shimokawa N., Kato T., Hirai T., Yoshihama K., Kawai H.,
RA Hattori M.A., Ezashi T., Shimogori Y., Wakabayashi K.;
RT "Porcine growth hormone: molecular cloning of cDNA and expression in
RT bacterial and mammalian cells.";
RL Biochim. Biophys. Acta 1048:290-293(1990).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=91355590; PubMed=2491309;
RA Qi S.Z., Wang X.Z., Zhou S.W., Jia F., Wang H.Y., Xia L.I., Li J.;
RT "Sequencing of porcine growth hormone cDNA.";
RL Chin. J. Biotechnol. 5:35-39(1989).
RN [4]
RP SEQUENCE OF 27-30 AND 149-216.
RX MEDLINE=70293161; PubMed=4918150;
RA Mills J.B., Howard S.C., Scapa S., Wilhelm A.E.;
RT "Cyanogen bromide cleavage and partial amino acid sequence of porcine
RT growth hormone.";
RL J. Biol. Chem. 245:3407-3415(1970).
RN [5]
RP SEQUENCE OF 7-216 FROM N.A.
RX MEDLINE=83209123; PubMed=6303731;
RA Seeburg P.H., Sias S., Adelman J., De Boer H.A., Hayflick J.,
RA Jhurani P., Goeddel D.V., Heyneker H.L.;
RT "Efficient bacterial expression of bovine and porcine growth
RT hormones.";
RL DNA 2:37-45(1983).
RN [6]
RP SEQUENCE OF 97-158 FROM N.A.
RX MEDLINE=94154153; PubMed=1343826;
RA Yang Q., Zhu B., Zhou S., Qi S.;
RT "Cloning and partial sequencing of the porcine growth hormone (pGH)
RT gene from pituitary gland.";
RL Chin. J. Biotechnol. 8:227-233(1992).
RN [7]
RP SEQUENCE OF 5-57 FROM N.A.
RA Jiang Z.H., Rottmann O.J., Pirschner F.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC
CC -----
CC CC EMBL; X53325; CAA37411.1; -
CC CC EMBL; M17704; AAA31044.1; -
CC DR EMBL; U19788; AAA73478.1; ALT_INIT.
CC DR EMBL; M27326; AAA31045.1; -
CC DR EMBL; S72386; AAB29947.2; -
CC DR EMBL; U73464; AAB17619.1; -
CC DR PIR; JN0015; STPG
CC DR PIR; A01516; A01516.
CC DR HSSP; P01246; IBST.
CC DR InterPro; IPR001400; SOMATOTROPIN.
CC DR Pfam; PF00103; hormone; 1.
CC DR PRINTS; PR00836; SOMATOTROPIN.
CC DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
CC DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
CC KW Hormone; Pituitary; Signal.
CC FT SIGNAL 1 26
CC FT CHAIN 27 216 SOMATOTROPIN.
CC FT DISULFID 78 189 BY SIMILARITY.
CC FT DISULFID 206 214 BY SIMILARITY.
CC FT CONFLICT 9 9 A -> V (IN REF. 5).
CC FT CONFLICT 22 22 R -> Q (IN REF. 5).
CC FT CONFLICT 78 78 C -> F (IN REF. 3).
CC FT CONFLICT 116 116 Q -> T (IN REF. 3).
CC FT CONFLICT 195 195 H -> N (IN REF. 4).
CC FT CONFLICT 203 203 V -> L (IN REF. 3).
CC FT CONFLICT 206 206 C -> S (IN REF. 3).
CC SQ SEQUENCE 216 AA; 24429 MW; 0216931D6BE76D14 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVOCRS-VEGSCGF 16
|||::|| || || |
Db 200 YLRVVKRRFVSSCAF 216

RESULT 21
SOMA_GALSE
ID SOMA_GALSE STANDARD; PRT; 217 AA.
AC Q9GKAL;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Galago senegalensis (Northern lesser bushbaby).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Strepsirhini; Galagonidae; Galago.
OX NCBI_TaxID=9465;
RN [1]
RP SEQUENCE FROM N.A.
RX PubMed=111411192;
RA Adkins R.M., Nekrutenko A., Li W.-H.;
RT "Bushbaby growth hormone is much more similar to nonprimate growth
RT hormones than to rhesus monkey and human growth hormones.";
RL Mol. Biol. Evol. 18:55-61(2001).
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
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DR EMBL; AF292938; AAG44952.1; -  
DR InterPro: IPR001400; SOMATOTROPIN.  
DR Pfam: PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 BY SIMILARITY.  
FT CHAIN 27 217 SOMATOTROPIN.  
FT DISULFID 79 190 BY SIMILARITY.  
FT DISULFID 207 215 BY SIMILARITY.  
SQ SEQUENCE 217 AA; 24481 MW; 2FB61CD31136F005 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 217;  
Best Local Similarity 58.8%; Pred. No. 0.32;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRVQCRS-VEGSCGF 16  
|||::|| || || |  
Db 201 YLRVMKRRFVESSCAF 217

RESULT 22  
SOMA\_NYCPY STANDARD; PRT; 217 AA.  
AC Q9GMB2;  
DT 01-MAR-2002 (Rel. 41, Created)  
DT 01-MAR-2002 (Rel. 41, Last sequence update)  
DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1.

OS Nycticebus pygmaeus (Pygmy slow loris).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Strepsirhini; Loridae; Nycticebus.  
OX NCBI\_TaxID=101278;  
RN [1]

RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RA "Cloning and characterisation of the gene encoding slow loris growth hormone."  
RT Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.  
RL -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

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-----

DR EMBL; AJ297562; CAC03504.1; -  
DR InterPro: IPR001400; SOMATOTROPIN.  
DR Pfam: PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 27 BY SIMILARITY.  
FT CHAIN 28 217 SOMATOTROPIN.  
FT DISULFID 79 190 BY SIMILARITY.  
FT DISULFID 207 215 BY SIMILARITY.  
SQ SEQUENCE 217 AA; 24395 MW; 7FE90D77E59085F6 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 217;  
Best Local Similarity 58.8%; Pred. No. 0.32;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRVQCRS-VEGSCGF 16  
|||::|| || || |  
Db 201 YLRVMKRRFVESSCAF 217

RESULT 23  
SOMA\_RABIT STANDARD; PRT; 216 AA.  
AC P46407;  
DT 01-NOV-1995 (Rel. 32, Created)  
DT 01-NOV-1995 (Rel. 32, Last sequence update)  
DT 01-FEB-1996 (Rel. 33, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1.

OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
OX NCBI\_TaxID=9986;  
RN [1]

RP SEQUENCE FROM N.A.  
RC STRAIN=NEW ZEALAND WHITE;  
RX MEDLINE=96011643; PubMed=7590276;  
RA Wallis O.C.; Wallis M.;  
RT "Cloning and characterisation of the rabbit growth hormone-encoding gene."  
RL Gene 163:253-256(1995).  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

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DR EMBL; Z38127; CAA86287.1; -  
DR HSP; P01246; IBST.  
DR InterPro: IPR001400; SOMATOTROPIN.  
DR Pfam: PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 26 POTENTIAL.  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT DISULFID 206 214 BY SIMILARITY.  
SQ SEQUENCE 216 AA; 24433 MW; 6EC19748199F9D75 CRC64;

Query Match 55.7%; Score 48.5; DB 1; Length 216;  
Best Local Similarity 58.8%; Pred. No. 0.94;  
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRVQCRS-VEGSCGF 16  
|||::|| || || |  
Db 200 YLRVMKRRFVESSCVF 216

RESULT 24  
SOMA\_RAT STANDARD; PRT; 216 AA.  
AC P01244;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DT 01-NOV-1997 (Rel. 35, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1 OR GH.

OS Rattus norvegicus (Rat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
OX NCBI\_TaxID=10116;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=82059526; PubMed=6272224;  
RA Page G.S., Smith S., Goodman H.M.;  
RT "DNA sequence of the rat growth hormone gene: location of the 5'  
RT terminus of the growth hormone mRNA and identification of an internal  
RT transposon-like element.";  
RL Nucleic Acids Res. 9:2087-2104(1981).  
RN [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=78071760; PubMed=339105;  
RA Seeburg P.H., Shine J., Martial J.A., Baxter J.D., Goodman H.M.;  
RT "Nucleotide sequence and amplification in bacteria of structural gene  
RT for rat growth hormone.";  
RL Nature 270:486-494(1977).  
RN [3]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=82060155; PubMed=6946433;  
RA Barta A., Richards R.I., Baxter J.D., Shine J.;  
RT "Primary structure and evolution of rat growth hormone gene.";  
RL Proc. Natl. Acad. Sci. U.S.A. 78:4867-4871(1981).  
RN [4]  
RP SEQUENCE FROM N.A.  
RX STRAIN=SPRAGUE-DAWLEY;  
RX MEDLINE=96056604; PubMed=8521139;  
RA Rohn W.M., Weigant D.A.;  
RT "Cloning and nucleotide sequencing of rat lymphocyte growth hormone  
RT cDNA.";  
RL Neuroimmunomodulation 2:108-114(1995).  
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CC CONTROL.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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CC -----  
DR EMBL; V01237; CAA24547.1; -;  
DR EMBL; V01238; CAA24548.1; -;  
DR EMBL; V01239; CAA24549.1; -;  
DR EMBL; U62779; AAB04025.1; -;  
DR PIR; A01513; STRT.  
DR HSSP; P01246; LBST.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW hormone; Pituitary; Signal.  
FT SIGNAL 1 26  
FT CHAIN 27 216 SOMATOTROPIN.  
FT DISULFID 78 189 BY SIMILARITY.  
FT DISULFID 206 214 BY SIMILARITY.  
FT CONFLICT 27 27 F -> L (IN REF. 2 AND 4).  
SQ SEQUENCE 216 AA; 24656 MW; CABF49DC0B2A226C CRC64;

Query Match 54.6%; Score 47.5; DB 1; Length 216;  
Best Local Similarity 52.9%; Pred. No. 1.3;  
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
| | | | | | | | | |

Db 200 YLRVMKRRFAESSCAF 216  
RESULT 25  
SONA\_BOVIN  
ID SOMA\_BOVIN STANDARD; PRT; 217 AA.  
AC P01246; Q28117;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DT 15-DEC-1998 (Rel. 37, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH1 OR GH.  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovidae; Bovinae; Bos.  
OX NCBI\_TaxID=9913;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=80249494; PubMed=6893197;  
RA Miller W.L., Martial J.A., Baxter J.D.;  
RT "Molecular cloning of DNA complementary to bovine growth hormone  
RT mRNA.";  
RL J. Biol. Chem. 255:7521-7524(1980).  
RN [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=83209123; PubMed=6303731;  
RA Seeburg P.H., Sids S., Adelman J., de Boer H.A., Hayflick J.,  
RA Jhurani P., Goeddel D.V., Heyneker H.L.;  
RT "Efficient bacterial expression of bovine and porcine growth  
RT hormones.";  
RL DNA 2:37-45(1983).  
RN [3]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RX MEDLINE=84058733; PubMed=6357899;  
RA Gordon D.F., Quick D.P., Erwin C.R., Donelson J.E., Maurer R.A.;  
RT "Nucleotide sequence of the bovine growth hormone chromosomal gene.";  
RL Mol. Cell. Endocrinol. 33:81-95(1983).  
RN [4]  
RP SEQUENCE FROM N.A.  
RA Rubtsov P.M., Chernov B.K., Gorbulev V.G., Parsadanyan A.S.,  
RA Sverdllova P.S., Chupueva V.V., Golova Y.B., Batchikova N.V.,  
RA Zhvirbils G.S., Skryabin K.G., Baev A.A.;  
RT "Genetic engineering of peptide hormones.";  
RL Mol. Biol. (Mosk) 19:226-235(1985).  
RN [5]  
RP SEQUENCE FROM N.A.  
RC STRAIN=NELORE; TISSUE=Pituitary;  
RA Mauro S.M.Z., Ferro M.I.T., Macari M., Ferro J.A.;  
RT "The complete sequence of a cDNA encoding the bovine growth hormone.";  
RL Submitted (NOV-1997) to the EMBL/GenBank/DBJ databases.  
RN [6]  
RP SEQUENCE.  
RX MEDLINE=74028758; PubMed=4584625;  
RA Wallis M.;  
RT "The primary structure of bovine growth hormone.";  
RL FEBS Lett. 35:11-14(1973).  
RN [7]  
RP SEQUENCE OF 91-96 AND 104-121.  
RX MEDLINE=74146429; PubMed=4856718;  
RA Graf L., Li C.H.;  
RT "On the primary structure of pituitary bovine growth hormone.";  
RL Biochem. Biophys. Res. Commun. 56:168-176(1974).  
RN [8]  
RP SEQUENCE.  
RX MEDLINE=73249153; PubMed=4580883;  
RA Santome J.A., Deilacha J.M., Paladini A.C., Pena C., Biscoglio M.J.,  
RA Daurat S.T., Poskus E., Wolfenstein C.E.M.;  
RT "Primary structure of bovine growth hormone.";  
RL Eur. J. Biochem. 37:164-170(1973).  
RN [9]  
RP SEQUENCE OF 27-49 FROM N.A.

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RX MEDLINE=86004063; PubMed=3899556;
RA George H.J., L'Italian J.J., Pilacinski W.P., Glassman D.L.,
RA Krzyzek R.A.;
RT "High-level expression in Escherichia coli of biologically active
RT bovine growth hormone.";
RL DNA 4:273-281(1985).
RN [10]
RP EVIDENCE FOR TWO ALLELIC CHAINS.
RX MEDLINE=71207803; PubMed=5579941;
RA Seavey B.K., Singh R.N.P., Lewis U.J., Geschwind I.I.;
RT "Bovine growth hormone: evidence for two allelic forms.";
RL Biochem. Biophys. Res. Commun. 43:189-195(1971).
RN [11]
RP CHARACTERIZATION.
RX MEDLINE=75133461; PubMed=1123321;
RA Yamasaki N., Shimanaka J., Sonnenburg M.;
RT "Studies on the common active site of growth hormone. Revision of the
RT amino acid sequence of an active fragment of bovine growth hormone.";
RL J. Biol. Chem. 250:2510-2514(1975).
RN [12]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=91214979; PubMed=2021631;
RA Caracci L., Chou K.-C., Maggiora G.M.;
RT "A heuristic approach to predicting the tertiary structure of bovine
RT somatotropin.";
RL Biochemistry 30:4389-4398(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL; J00008; AAA30542.1; -
DR EMBL; V00111; CAA23445.1; -
DR EMBL; M27325; AAA30543.1; -
DR EMBL; M57764; AAA30544.1; -
DR EMBL; M23813; AAA30556.1; -
DR EMBL; AF034386; AAB92549.1; -
DR EMBL; M11558; AAA30545.1; -
DR EMBL; A08489; CAA00787.1; -
DR PIR; A01515; STBO.
DR PDB; 1BST; 15-OCT-94.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal; Polymorphism; 3D-structure.
FT SIGNAL 1 27
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190
FT DISULFID 207 215
FT VARIANT 153 153 L -> V (IN 30% OF THE MOLECULES).
FT CONFLICT 95 95 Q -> E (IN REF. 8).
FT CONFLICT 110 121 QSWLGPQLFSR -> SOWLQPGFLR (IN REF. 8).
FT CONFLICT 194 194 D -> N (IN REF. 8).
FT SEQUENCE 217 AA; 24558 MW; 99ED8D01B852EF89 CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVCRSV-EGSCGF 16
Db |||::||| | | | |
201 YLRVMKRRRFGASCAF 217

RX MEDLINE=86004063; PubMed=3899556;
RA George H.J., L'Italian J.J., Pilacinski W.P., Glassman D.L.,
RA Krzyzek R.A.;
RT "High-level expression in Escherichia coli of biologically active
RT bovine growth hormone.";
RL DNA 4:273-281(1985).
RN [10]
RP EVIDENCE FOR TWO ALLELIC CHAINS.
RX MEDLINE=71207803; PubMed=5579941;
RA Seavey B.K., Singh R.N.P., Lewis U.J., Geschwind I.I.;
RT "Bovine growth hormone: evidence for two allelic forms.";
RL Biochem. Biophys. Res. Commun. 43:189-195(1971).
RN [11]
RP CHARACTERIZATION.
RX MEDLINE=75133461; PubMed=1123321;
RA Yamasaki N., Shimanaka J., Sonnenburg M.;
RT "Studies on the common active site of growth hormone. Revision of the
RT amino acid sequence of an active fragment of bovine growth hormone.";
RL J. Biol. Chem. 250:2510-2514(1975).
RN [12]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=91214979; PubMed=2021631;
RA Caracci L., Chou K.-C., Maggiora G.M.;
RT "A heuristic approach to predicting the tertiary structure of bovine
RT somatotropin.";
RL Biochemistry 30:4389-4398(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL; J00008; AAA30542.1; -
DR EMBL; V00111; CAA23445.1; -
DR EMBL; M27325; AAA30543.1; -
DR EMBL; M57764; AAA30544.1; -
DR EMBL; M23813; AAA30556.1; -
DR EMBL; AF034386; AAB92549.1; -
DR EMBL; M11558; AAA30545.1; -
DR EMBL; A08489; CAA00787.1; -
DR PIR; A01515; STBO.
DR PDB; 1BST; 15-OCT-94.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal; Polymorphism; 3D-structure.
FT SIGNAL 1 27
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190
FT DISULFID 207 215
FT VARIANT 153 153 L -> V (IN 30% OF THE MOLECULES).
FT CONFLICT 95 95 Q -> E (IN REF. 8).
FT CONFLICT 110 121 QSWLGPQLFSR -> SOWLQPGFLR (IN REF. 8).
FT CONFLICT 194 194 D -> N (IN REF. 8).
FT SEQUENCE 217 AA; 24558 MW; 99ED8D01B852EF89 CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVCRSV-EGSCGF 16
Db |||::||| | | | |
201 YLRVMKRRRFGASCAF 217
```

## RESULT 26

```

SOMA_BUBBU
ID SOMA_BUBBU STANDARD; PRT; 217 AA.
AC O18938;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH
OS Bubalus bubalis (Domestic water buffalo).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bubalus.
OX NCBI_TaxID=89462;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RA Tiwari G., Garg L.C.;
RT "Cloning and characterization of growth hormone encoding gene in
RT Bubalus bubalis.";
RL Submitted (SEP-1998) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL; AJ011533; CAA09679.1; -
DR EMBL; AJ011514; CAA09668.1; -
DR EMBL; AJ011513; CAA09667.1; -
DR EMBL; AJ000549; CAA04181.1; -
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 27 BY SIMILARITY.
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190 BY SIMILARITY.
FT DISULFID 207 215 BY SIMILARITY.
FT SEQUENCE 217 AA; 24618 MW; 453547080E9B54EB CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVCRSV-EGSCGF 16
Db |||::||| | | | |
201 YLRVMKRRRFGASCAF 217

RESULT 27
SOMA_CEREL
ID SOMA_CEREL STANDARD; PRT; 217 AA.
AC P56437;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Somatotropin precursor (growth hormone).
GN GH1.
OS Cervus elaphus (Red deer).
```

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervioidea;  
 OC Cervidae; Cervinae; Cervus.  
 OX NCBI\_TaxID=9860;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Tongue;  
 RA Lioupi A., Wallis O.C., Wallis M.;  
 RL Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
 CC CONTROL.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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 CC -----  
 DR EMBL: Y12578; CAA73158.1; --  
 DR HSSP: P01246; IBST.  
 DR InterPro: IPR001400; SOMATOTROPIN.  
 DR Pfam: PF00103; hormone; 1.  
 DR PRINTS: PR00836; SOMATOTROPIN.  
 DR PROSITE: PS00266; SOMATOTROPIN\_1; 1.  
 DR PROSITE: PS00338; SOMATOTROPIN\_2; 1.  
 KW Hormone; Pituitary; Signal.  
 FT SIGNAL 1 27 BY SIMILARITY.  
 FT CHAIN 28 217 SOMATOTROPIN.  
 FT DISULFID 79 190 BY SIMILARITY.  
 FT DISULFID 207 215 BY SIMILARITY.  
 SQ SEQUENCE 217 AA; 24558 MW; 6F22D5241468B7AD CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;  
 Best Local Similarity 52.9%; Pred. No. 1.9;  
 Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;  
 QY 1 YLRIVQCRSV-EGSCGF 16  
 |||::||| | | |  
 Db 201 YLRVMKCRFEASCAF 217

RESULT 28  
 SOMA\_SHEEP STANDARD; PRT; 217 AA.  
 AC P01247; P07289; Q29404;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 01-NOV-1988 (Rel. 09, Last sequence update)  
 DT 16-OCT-2001 (Rel. 40, Last annotation update)  
 DE Somatotropin precursor (Growth hormone).  
 GN GH1.  
 OS Ovis aries (Sheep),  
 OS Capra hircus (Goat), and  
 OS Bubalus bubalis (Domestic water buffalo).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;  
 OC Bovidae; Caprinae; Ovis.  
 OX NCBI\_TaxID=9940, 9925, 89462;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=Sheep;  
 RX MEDLINE=89016563; PubMed=3174441;  
 RA Orian J.M., O'Mahoney J.V., Brandon M.R.;  
 RT "Cloning and sequencing of the ovine growth hormone gene.";  
 RL Nucleic Acids Res. 16:9046-9046(1988).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=Sheep;  
 RX MEDLINE=89287334; PubMed=2660907;

RA Warwick J.M., Wallis O.C., Wallis M.;  
 RT "Cloning, sequence and expression in Escherichia coli of cDNA for  
 RT ovine pregrowth hormone.";  
 RL Biochim. Biophys. Acta 1008:247-250(1989).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=Sheep;  
 RX MEDLINE=88268619; PubMed=3453044;  
 RA Byrne C.R., Wilson B.W., Ward K.A.;  
 RT "The isolation and characterisation of the ovine growth hormone  
 RT gene.";  
 RL Aust. J. Biol. Sci. 40:459-468(1987).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=Sheep; TISSUE=Pituitary;  
 RX MEDLINE=93093692; PubMed=1459643;  
 RA Guron C., Rao K.B., Jain S.K., Totey S.M., Talwar G.P.;  
 RT "Cloning and nucleotide sequencing of sheep growth hormone cDNA.";  
 RL Indian J. Exp. Biol. 30:659-663(1992).  
 RN [5]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=Sheep; STRAIN=AWASSI;  
 RA Ofir R., Gootwine E.;  
 RL Submitted (JUL-1997) to the EMBL/GenBank/DBJ databases.  
 RN [6]  
 RP SEQUENCE OF 28-217.  
 RC SPECIES=Sheep;  
 RX MEDLINE=73220070; PubMed=4736985;  
 RA Li C.H., Gordon D., Knorr J.;  
 RT "The primary structure of sheep pituitary growth hormone.";  
 RL Arch. Biochem. Biophys. 156:493-508(1973).  
 RN [7]  
 RP SEQUENCE OF 150-217.  
 RC SPECIES=Sheep;  
 RX MEDLINE=72134042; PubMed=5062423;  
 RA Bellair J.T.;  
 RT "Ovine growth hormone. Sequence of the C-terminal 68 amino acids.";  
 RL Biochem. Biophys. Res. Commun. 46:1128-1134(1972).  
 RN [8]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.hircus; STRAIN=SAANEN;  
 RX MEDLINE=88137627; PubMed=3342884;  
 RA Yamano Y., Oyabayashi K., Okuno M., Yato M., Kioka N., Manabe E.,  
 RA Hashi H., Sakai H., Komano T., Utsumi K., Iritani A.;  
 RT "Cloning and sequencing of cDNA that encodes goat growth hormone.";  
 RL FEBS Lett. 228:301-304(1988).  
 RN [9]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.hircus;  
 RX MEDLINE=88233947; PubMed=3375065;  
 RA Yato M., Yamano Y., Oyabayashi K., Okuno M., Kioka N., Manabe E.,  
 RA Hashi H., Sakai H., Komano T., Utsumi K., Iritani A.;  
 RT "Nucleotide sequence of the growth hormone gene cDNA from goat Capra  
 RT hircus L. (Tokara).";  
 RL Nucleic Acids Res. 16:3578-3578(1988).  
 RN [10]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.hircus;  
 RA Kioka N., Manabe E., Abe M., Hashi H., Yato M., Okuno M., Yamano Y.,  
 RA Sakai H., Komano T., Utsumi K., Iritani A.;  
 RT "Cloning and sequencing of goat growth hormone gene.";  
 RL Agric. Biol. Chem. 53:1583-1587(1989).  
 RN [11]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=B.dubalis;  
 RA Verma S., Garg L.C.;  
 RL Submitted (MAR-1993) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
 CC CONTROL.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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DR EMBL; X12546; CAA31063.1; -;  
DR EMBL; X15976; CAA34098.1; -;  
DR EMBL; S50877; AAB24467.2; -;  
DR EMBL; M37310; AAA31527.1; -;  
DR EMBL; AF002113; AAB63273.1; -;  
DR EMBL; AF002111; AAB63273.1; JOINED.  
DR EMBL; AF002112; AAB63273.1; JOINED.  
DR EMBL; Y00767; CAA68736.1; -;  
DR EMBL; X07035; CAA30083.1; -;  
DR EMBL; D00476; BAA00368.1; -;  
DR EMBL; X72947; CAA51450.1; -;  
DR EMBL; A09118; CAA00828.1; -;  
DR PIR; S02225; STSH.  
DR PIR; S00321; STGT.  
DR PIR; S00681; S00681.  
DR PIR; JU0031; JU0031.  
DR PIR; S32682; S32682.  
DR HSP; P01246; IBST.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 27  
FT CHAIN 28 217 SOMATOTROPIN.  
FT DISULFID 79 190  
FT DISULFID 207 215  
FT CONFLICT 89 89 G -> S (IN REF. 3).  
FT CONFLICT 125 125 N -> D (IN REF. 6).  
FT CONFLICT 134 134 R -> L (IN REF. 3).  
FT CONFLICT 173 173 T -> R (IN REF. 4).  
SQ SEQUENCE 217 AA; 24630 MW; 77EC37A102584429 CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;  
Best Local Similarity 52.9%; Pred. No. 1.9;  
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSCGF 16  
|||::||| | | | |  
DB 201 YLRVVKCRFRFGASCAF 217

## RESULT 29

SOMA\_RANCA  
ID SOMA\_RANCA STANDARD; PRT; 215 AA.  
AC P10813;  
DT 01-JUL-1989 (Rel. 11, Created)  
DT 01-FEB-1995 (Rel. 31, Last sequence update)  
DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH.  
OS Rana catesbeiana (Bull frog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Rana.  
OX NCBI\_TaxID=8400;  
[1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary;  
RX MEDLINE=88252154; PubMed=3260110;  
RA Pan F.-M., Chang W.-C.;  
RT "Cloning and sequencing of bullfrog growth hormone complementary  
RT DNA.";  
RL Biochim. Biophys. Acta 950:238-242(1988).  
RN [2]

RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary;  
RX MEDLINE=93119453; PubMed=1476615;  
RA Takahashi N., Kikuyama S., Gen K., Maruyama O., Kato Y.;  
RT "Cloning of a bullfrog growth hormone cDNA: expression of growth  
RT hormone mRNA in larval and adult bullfrog pituitaries.";  
J. Mol. Endocrinol. 9:283-289(1992).  
RN [3]  
RP SEQUENCE OF 26-215.  
RC TISSUE=Pituitary;  
RX MEDLINE=91316122; PubMed=1859828;  
RA Kobayashi T., Yasuda A., Yamaguchi K., Kawauchi H., Kikuyama S.;  
RT "The complete amino acid sequence of growth hormone of the bullfrog  
RT (Rana catesbeiana).";  
Biochim. Biophys. Acta 1078:383-387(1991).  
RL  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CC CONTROL.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- DEVELOPMENTAL STAGE: LEVELS INCREASE AS METAMORPHOSIS PROGRESSES,  
CC REACH MAXIMA IN JUVENILES AND DECREASE AS ADULTHOOD APPROACHES.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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DR EMBL; X12520; CAA31038.1; -;  
DR EMBL; S52027; AAB24792.1; -;  
DR PIR; JS0037; JS0037.  
DR HSP; P01241; LHUM.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 25  
FT CHAIN 26 215 SOMATOTROPIN.  
FT DISULFID 77 188 BY SIMILARITY.  
FT DISULFID 205 213 BY SIMILARITY.  
FT CONFLICT 68 73 SNKHSY -> KOTLLI (IN REF. 1).  
FT CONFLICT 98 98 D -> E (IN REF. 3).  
FT CONFLICT 105 105 T -> L (IN REF. 3).  
FT CONFLICT 112 112 T -> N (IN REF. 3).  
SQ SEQUENCE 215 AA; 24975 MW; 3C08D5840EFF102A CRC64;

Query Match 50.0%; Score 43.5; DB 1; Length 215;  
Best Local Similarity 47.1%; Pred. No. 5.6;  
Matches 8; Conservative 5; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16  
||::||| | | | |  
DB 199 YLRVVKCRFRFVESNCTF 215

## RESULT 30

CADH\_MOUSE  
ID CADH\_MOUSE STANDARD; PRT; 827 AA.  
AC Q9RL00;  
DT 16-OCT-2001 (Rel. 40, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Cadherin-17 precursor (Liver-intestine-cadherin) (LI-cadherin) (BILL-  
DE cadherin) (P130).  
GN CDH17.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
RN [2]



DT 01-FEB-1995 (Rel. 31, Created)  
DT 01-FEB-1995 (Rel. 31, Last sequence update)  
DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Dihydroorotate dehydrogenase homolog, mitochondrial precursor  
DE (EC 1.3.3.1) (Dihydroorotate oxidase) (DHODHase).  
OS Plasmodium falciparum.  
OC Eukaryota; Alveolata; Apicomplexa; Haemosporidia; Plasmodium.  
OX NCBI\_TaxID=5833;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=3D7;  
RX MEDLINE=94049995; PubMed=8232427;  
RA Leblanc S.B., Wilson C.M.;  
RT "The dihydroorotate dehydrogenase gene homologue of Plasmodium falciparum."  
RL Mol. Biochem. Parasitol. 60:349-352(1993).  
CC -!- CATALYTIC ACTIVITY: (S)-dihydroorotate + O(2) -> orotate + H(2)O(2).  
CC -!- COFACTOR: FAD.  
CC -!- PATHWAY: FOURTH STEP IN PYRIMIDINE BIOSYNTHESIS.  
CC -!- SUBCELLULAR LOCATION: Mitochondrial inner membrane (Probable).  
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CC -----  
DR EMBL; L15446; AAC37170.1; -.  
DR InterPro; IPR001295; DHO\_dh.  
DR InterPro; IPR003009; FMN\_enzyme.  
DR Pfam; PF01180; DHODHase; 1.  
DR PROSITE; PS00911; DHODHASE\_1; 1.  
DR PROSITE; PS00912; DHODHASE\_2; 1.  
KW Pyrimidine biosynthesis; Oxidoreductase; Flavoprotein; FAD;  
KW Transit peptide; Mitochondrion; Inner membrane.  
FT TRANSIT 1 ? MITOCHONDRION (POTENTIAL).  
FT CHAIN ? 569 DIHYDROOROTATE DEHYDROGENASE HOMOLOG.  
FT NP\_BIND 235 243 FAD (NAD PART) (POTENTIAL).  
SQ SEQUENCE 569 AA; 65558 MW; 88880384EBD52FE3 CRC64;  
  
Query Match 47.1%; Score 41; DB 1; Length 569;  
Best Local Similarity 57.1%; Pred. No. 33;  
Matches 8; Conservative 2; Mismatches 4; Indels 0; Gaps 0;  
  
QY 3 RIVQRSVEGSCGF 16  
| : ||: ||||  
Db 265 RDVESRSIINSGCF 278  
  
RESULT 33  
NTC4\_MOUSE STANDARD; PRT; 1964 AA.  
AC P31695; Q62389;  
DT 01-JUL-1993 (Rel. 26, Created)  
DT 01-NOV-1997 (Rel. 35, Last sequence update)  
DT 16-OCT-2001 (Rel. 40, Last annotation update)  
DE Neurogenic locus notch homolog protein 4 precursor (Transforming protein INT-3).  
DE NOTCH4 OR INT3 OR INT-3.  
GN NOTCH4 OR INT3 OR INT-3.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Murinae; Mus.  
OX NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=92194507; PubMed=1312643;  
RA Robbins J., Blondel B.J., Callahan D., Callahan R.;  
RT "Mouse mammary tumor gene int-3: a member of the notch gene family transforms mammary epithelial cells."

RL J. Virol. 66:2594-2599(1992).  
RN [2]  
RP REVISIONS, SEQUENCE FROM N.A.  
RX MEDLINE=97294599; PubMed=9150355;  
RA Callahan D., Callahan R.;  
RT "The mouse mammary tumor associated gene INT3 is a unique member of the NOTCH gene family (NOTCH4).";  
RL Oncogene 14:1883-1890(1997).  
RN [3]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Lung, and Testis;  
RX MEDLINE=96281668; PubMed=8681805;  
RA Uyttendaele H., Marazzi G., Wu G., Yan Q., Sassoon D., Kitajewski J.;  
RT "Notch4/int-3, a mammary proto-oncogene, is an endothelial cell-specific mammalian Notch gene."  
RL Development 122:2251-2259(1996).  
CC -!- SUBCELLULAR LOCATION: Type I membrane protein.  
CC -!- DISEASE: ACTIVATED INT-3 TRANSFORMS MAMMARY EPITHELIAL CELLS.  
CC -!- SIMILARITY: CONTAINS 29 EGF-LIKE DOMAINS.  
CC -!- SIMILARITY: CONTAINS 3 LIN/NOTCH REPEATS.  
CC -!- SIMILARITY: CONTAINS 5 ANK REPEATS.  
CC -----  
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CC -----  
DR EMBL; M80456; AAB38377.1; -.  
DR EMBL; U43691; AAC52630.1; -.  
DR PIR; A38072; TMVVT3.  
DR HSP; P08709; 1BF9.  
DR MGD; MGI:107471; Notch4.  
DR InterPro; IPR002110; ANK.  
DR InterPro; IPR000152; ASX\_hydroxyl.  
DR InterPro; IPR000561; EGF-like.  
DR InterPro; IPR000742; EGF\_2.  
DR InterPro; IPR001881; EGF\_Ca.  
DR InterPro; IPR001438; EGF\_II.  
DR InterPro; IPR000800; Notch.  
DR Pfam; PF00023; ank; 6.  
DR Pfam; PF00008; EGF; 27.  
DR Pfam; PF00066; notch; 2.  
DR PRINTS; PR01415; ANKYRIN.  
DR PRINTS; PR00010; EGFLOOD.  
DR PRINTS; PR01452; NOTCH.  
DR SMART; SM00248; ANK; 5.  
DR SMART; SM00179; EGF\_CA; 11.  
DR SMART; SM00001; EGF\_Like; 15.  
DR SMART; SM00004; NL; 2.  
DR PROSITE; PS50088; ANK\_REPEAT; 5.  
DR PROSITE; PS50297; ANK\_REPEAT\_REGION; 1.  
DR PROSITE; PS00010; ASX\_HYDROXYL; 11.  
DR PROSITE; PS00022; EGF\_1; 28.  
DR PROSITE; PS01186; EGF\_2; 21.  
DR PROSITE; PS01187; EGF\_CA; 9.  
KW Differentiation; Neurogenesis; Repeat; EGF-like domain; Transmembrane;  
KW Glycoprotein; Proto-oncogene; ANK repeat; Signal.  
FT SIGNAL 1 20  
FT CHAIN 21 1964  
FT DOMAIN 21 1443  
FT TRANSMEM 1444 1464  
FT DOMAIN 1465 1964  
FT DOMAIN 21 60  
FT DOMAIN 61 112  
FT DOMAIN 115 152  
FT DOMAIN 153 189  
FT DOMAIN 191 229  
FT DOMAIN 231 271  
FT DOMAIN 273 309  
FT DOMAIN 311 350

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352 388  EGF-LIKE 9,  CALCIUM-BINDING (POTENTIAL).
389 427  EGF-LIKE 10.
390 470  EGF-LIKE 11,  CALCIUM-BINDING (POTENTIAL).
472 508  EGF-LIKE 12,  CALCIUM-BINDING (POTENTIAL).
510 546  EGF-LIKE 13,  CALCIUM-BINDING (POTENTIAL).
548 584  EGF-LIKE 14,  CALCIUM-BINDING (POTENTIAL).
622 656  EGF-LIKE 15,  CALCIUM-BINDING (POTENTIAL).
622 656  EGF-LIKE 16.
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726 762  EGF-LIKE 19.
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1126 1167  EGF-LIKE 28.
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2952 2990  BY SIMILARITY.
2991 3029  BY SIMILARITY.
3030 3068  BY SIMILARITY.
3069 3107  BY SIMILARITY.
3108 3147  BY SIMILARITY.
3148 3186  BY SIMILARITY.
3187 3225  BY SIMILARITY.
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3265 3303  BY SIMILARITY.
3304 3343  BY SIMILARITY.
3344 3382  BY SIMILARITY.
3383 3421  BY SIMILARITY.
3422 3460  BY SIMILARITY.
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3501 3539  BY SIMILARITY.
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3579 3617  BY SIMILARITY.
3618 3657  BY SIMILARITY.
3658 3696  BY SIMILARITY.
3697 3735  BY SIMILARITY.
3736 3774  BY SIMILARITY.
3775 3813  BY SIMILARITY.
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3853 3891  BY SIMILARITY.
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3970 4008  BY SIMILARITY.
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4048 4086  BY SIMILARITY.
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4439 4477  BY SIMILARITY.
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4595 4633  BY SIMILARITY.
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4751 4789  BY SIMILARITY.
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4829 4867  BY SIMILARITY.
4868 4906  BY SIMILARITY.
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4946 4984  BY SIMILARITY.
4985 5023  BY SIMILARITY.
5024 5062  BY SIMILARITY.
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5102 5140  BY SIMILARITY.
5141 5179  BY SIMILARITY.
5180 5218  BY SIMILARITY.
5219 5257  BY SIMILARITY.
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5375 5413  BY SIMILARITY.
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5609 5647  BY SIMILARITY.
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5726 5764  BY SIMILARITY.
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5804 5842  BY SIMILARITY.
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5960 5998  BY SIMILARITY.
5999 6037  BY SIMILARITY.
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6780 6818  BY SIMILARITY.
6819 6857  BY SIMILARITY.
6858 6896  BY SIMILARITY.
6897 6935  BY SIMILARITY.
6936 6974  BY SIMILARITY.
6975 7013  BY SIMILARITY.
7014 7052  BY SIMILARITY.
7053 7091  BY SIMILARITY.
7092 7130  BY SIMILARITY.
7131 7169  BY SIMILARITY.
7170 7208  BY SIMILARITY.
7209 7247  BY SIMILARITY.
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7326 7364  BY SIMILARITY.
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8223 8261  BY SIMILARITY.
8262 8300  BY SIMILARITY.
8301 8339  BY SIMILARITY.
8340 8378  BY SIMILARITY.
8379 8417  BY SIMILARITY.
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8496 8534  BY SIMILARITY.
8535 8573  BY SIMILARITY.
8574 8612  BY SIMILARITY.
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9120 9158  BY SIMILARITY.
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9354 9392  BY SIMILARITY.
9393 9431  BY SIMILARITY.
9432 9470  BY SIMILARITY.
9471 9509  BY SIMILARITY.
9510 9548  BY SIMILARITY.
9549 9587  BY SIMILARITY.
9588 9626  BY SIMILARITY.
9627 9665  BY SIMILARITY.
9666 9704  BY SIMILARITY.
9705 9743  BY SIMILARITY.
9744 9782  BY SIMILARITY.
9783 9821  BY SIMILARITY.
9822 9860  BY SIMILARITY.
9861 9899  BY SIMILARITY.
9900 9938  BY SIMILARITY.
9939 9977  BY SIMILARITY.
9978 1000  BY SIMILARITY.
1001 1039  BY SIMILARITY.
1040 1078  BY SIMILARITY.
1079 1117  BY SIMILARITY.
1118 1156  BY SIMILARITY.
1157 1195  BY SIMILARITY.
1196 1234  BY SIMIL
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RA Bannantine J.P., Rockey D.D.;
RT "Use of primate model system to identify Chlamydia trachomatis protein
RL antigens recognized uniquely in the context of infection.";
CC -!- CATALYTIC ACTIVITY: UDP-3-O-(3-hydroxytetradecanoyl)-glucosamine +
CC (R)-3-hydroxytetradecanoyl-[acyl-carrier protein] = UDP-2,3-bis(3-
CC hydroxytetradecanoyl)-glucosamine + [acyl-carrier protein].
CC -!- PATHWAY: Lipid A biosynthesis; Third step.
CC -!- SIMILARITY: BELONGS TO THE TRANSFERASE HEXAPEPTIDE REPEAT FAMILY.
CC LPXD SUBFAMILY.
CC -----
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CC -----
DR EMBL; AE001297; AAC67836.1; -.
DR EMBL; AF077009; AAC35947.1; -.
DR InterPro; IPR001451; Hexapep_transf.
DR Pfam; PF00132; hexapep; 8.
DR PROSITE; PS00101; HEXAPEP_TRANSFERASES; FALSE_NEG.
KW Transferase; Acyltransferase; Lipid A biosynthesis; Lipid synthesis;
KW Repeat; Complete proteome.
FT CONFLICT 2 2 S -> C (IN REF. 2).
FT CONFLICT 7 7 S -> F (IN REF. 2).
FT CONFLICT 157 157 E -> Q (IN REF. 2).
FT CONFLICT 226 226 G -> A (IN REF. 2).
SQ SEQUENCE 354 AA; 38404 MW; B9C547C129AE17BB CRC64;

Query Match 46.0%; Score 40; DB 1; Length 354;
Best Local Similarity 61.5%; Pred. No. 31;
Matches 8; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCGF 16
Db 178 IIQPGAVIGSCGF 190
l:l :l llllll

RESULT 35
LPXD_CHLPN STANDARD; PRT; 360 AA.
AC Q9Z8N6;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferase
DE (EC 2.3.1.-).
GN LPXD OR CPN0302 OR CP0456.
OS Chlamydia pneumoniae (Chlamydia phila pneumoniae).
OC Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia phila.
OX NCBI_TaxID=833558;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CWL029;
RX MEDLINE=99206606; PubMed=10192388;
RA Kalman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman R.W.,
RA Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
RT "Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
RL Nat. Genet. 21:385-389(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=AR39;
RX MEDLINE=20150255; PubMed=10684935;
RA Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
RA White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
RA Linher K., Weidman J., Khouri H., Craven B., Bowman C., Dodson R.,
RA Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L.,
RA Eisen J., Fraser C.M.;
RT "Genome sequences of Chlamydia trachomatis MoPn and Chlamydia

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RT pneumoniae AR39.";
RL Nucleic Acids Res. 28:1397-1406(2000).
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=J138;
RX MEDLINE=20330349; PubMed=10871362;
RA Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
RA Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
RT "Comparison of whole genome sequences of Chlamydia pneumoniae J138
RT from Japan and CWL029 from USA.";
RL Nucleic Acids Res. 28:2311-2314(2000).
CC -!- CATALYTIC ACTIVITY: UDP-3-O-(3-hydroxytetradecanoyl)-glucosamine +
CC (R)-3-hydroxytetradecanoyl-[acyl-carrier protein] = UDP-2,3-bis(3-
CC hydroxytetradecanoyl)-glucosamine + [acyl-carrier protein].
CC -!- PATHWAY: Lipid A biosynthesis; Third step.
CC -!- SIMILARITY: BELONGS TO THE TRANSFERASE HEXAPEPTIDE REPEAT FAMILY.
CC LPXD SUBFAMILY.
CC -----
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CC -----
DR EMBL; AE001615; AAD18451.1; -.
DR EMBL; AE002207; AAF38294.1; -.
DR EMBL; AP002546; BAA98512.1; -.
DR PHCI-2DPAGE; Q9Z8N6; -.
DR TIGR; CP0456; -.
DR InterPro; IPR001451; Hexapep_transf.
DR Pfam; PF00132; hexapep; 8.
DR PROSITE; PS00101; HEXAPEP_TRANSFERASES; FALSE_NEG.
KW Transferase; Acyltransferase; Lipid A biosynthesis; Lipid synthesis;
KW Repeat; Complete proteome.
SQ SEQUENCE 360 AA; 38846 MW; 4CDD843A6AF77B3F CRC64;

Query Match 46.0%; Score 40; DB 1; Length 360;
Best Local Similarity 61.5%; Pred. No. 31;
Matches 8; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCGF 16
Db 179 VVQPGAVLGSCGF 191
:l:l :l llllll

RESULT 36
ATSL_MOUSE STANDARD; PRT; 968 AA.
AC P97857; O54768;
DT 30-MAY-2000 (Rel. 39, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE ADAMTS-1 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase
DE with thrombospondin motifs 1) (ADAM-TS 1) (ADAM-TS1).
GN ADAMTS1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=129/SVJ;
RX MEDLINE=98110583; PubMed=9441751;
RA Kuno K., Lizasa H., Ohno S., Matsushima K.;
RT "The exon/intron organization and chromosomal mapping of the mouse
RT ADAMTS-1 gene encoding an ADAM family protein with TSP motifs.";
RL Genomics 46:466-471(1997).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=97150761; PubMed=8995297;

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CC -----

DR EMBL: J01917; AAA92206.1; -.  
DR PIR: A00711; WMAD12.  
DR InterPro: IPR002064; DNA\_pol\_B.  
DR Pfam: PF00136; DNA\_pol\_B; 1.  
DR PRINTS: PR00106; DNAPOLB.  
DR SMART: SM00486; POLBC; 1.  
DR PROSITE: PS00116; DNA\_POLYMERASE\_B; 1.  
KW Transferase; DNA-directed DNA polymerase; DNA replication;  
KW DNA-binding.  
SQ SEQUENCE 1056 AA; 120432 MW; CD36FD6DF4E3A9EA CRC64;

Query Match 46.0%; Score 40; DB 1; Length 1056;  
Best Local Similarity 50.0%; Pred. No. 81;  
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCG 15  
Db 911 LVECEIVCGACG 922  
:|:|:|:|:|

RESULT 38  
DPOL\_ADE05 STANDARD; PRT; 1056 AA.  
AC P04495;  
DT 13-AUG-1987 (Rel. 05, Created)  
DT 13-AUG-1987 (Rel. 05, Last sequence update)  
DT 15-DEC-1998 (Rel. 37, Last annotation update)  
DE DNA polymerase (EC 2.7.7.7).  
GN POL.  
OS Human adenovirus type 5.  
OC Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.  
OX NCBI\_TaxID=28285;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA MEDLINE=84183604; PubMed=6325298;  
RA Dekker B.M.M., van Ormondt H.;  
RT "The nucleotide sequence of fragment HindIII-C of human adenovirus  
RT type 5 DNA (map positions 17.1-31.7).";  
RL Gene 27:115-120(1984).  
CC -!- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate  
CC + [DNA](N).  
CC -!- MISCELLANEOUS: THIS DNA POLYMERASE REQUIRES A PROTEIN AS A PRIMER.  
CC -!- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.  
CC -----  
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CC -----

DR EMBL: X02996; CAA26749.1; -.  
DR PIR: A00712; DJAD51.  
DR InterPro: IPR002064; DNA\_pol\_B.  
DR Pfam: PF00136; DNA\_pol\_B; 1.  
DR PRINTS: PR00106; DNAPOLB.  
DR SMART: SM00486; POLBC; 1.  
DR PROSITE: PS00116; DNA\_POLYMERASE\_B; 1.  
KW Transferase; DNA-directed DNA polymerase; DNA replication;  
KW DNA-binding.  
SQ SEQUENCE 1056 AA; 120400 MW; AE7BBC107A334E99 CRC64;

Query Match 46.0%; Score 40; DB 1; Length 1056;

Best Local Similarity 50.0%; Pred. No. 81;  
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;  
QY 4 IVQCRSVEGSCG 15  
Db 911 LVECEIVCGACG 922  
:|:|:|:|:|

RESULT 39  
Y192\_HUMAN STANDARD; PRT; 2124 AA.  
ID Y192\_HUMAN  
AC Q93074;  
DT 01-NOV-1997 (Rel. 35, Created)  
DT 01-NOV-1997 (Rel. 35, Last sequence update)  
DT 16-OCT-2001 (Rel. 40, Last annotation update)  
DE Hypothetical protein KIAA0192 (Fragment).  
GN KIAA0192.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Bone marrow;  
RX MEDLINE=96281124; PubMed=8724849;  
RA Nagase T., Seki N., Ishikawa K.-I., Tanaka A., Nomura N.;  
RT "Prediction of the coding sequences of unidentified human genes. V.  
RT The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced by  
RT analysis of cDNA clones from human cell line KG-1.";  
RL DNA Res. 3:17-24(1996).  
CC -!- TISSUE SPECIFICITY: UBIQUITOUS.  
CC -----  
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CC -----

DR EMBL: D83783; BAA12112.1; -.  
DR MIM: 300188; -.  
KW Hypothetical protein.  
FT NON\_TER 1  
FT DOMAIN 599 602 POLY-SER.  
FT DOMAIN 1201 1207 POLY-GLY.  
FT DOMAIN 1998 2124 GLN-RICH.  
FT DOMAIN 1998 2023 POLY-GLN.  
FT DOMAIN 2028 2033 POLY-GLN.  
FT DOMAIN 2037 2070 POLY-GLN.  
FT DOMAIN 2090 2097 POLY-GLN.  
SQ SEQUENCE 2124 AA; 237207 MW; 255FB9419EC39F42 CRC64;

Query Match 46.0%; Score 40; DB 1; Length 2124;  
Best Local Similarity 46.7%; Pred. No. 1.5e+02;  
Matches 7; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 2 LRIVQCRSVEGSCGF 16  
Db 1043 LKALCCSSNNGTCGF 1057  
:|:|:|:|:|

RESULT 40  
PRL\_BUFJA STANDARD; PRT; 134 AA.  
ID PRL\_BUFJA  
AC P43001;  
DT 01-NOV-1995 (Rel. 32, Created)  
DT 01-NOV-1995 (Rel. 32, Last sequence update)  
DT 01-NOV-1995 (Rel. 32, Last annotation update)  
DE Prolactin (PRL) (Fragment).  
OS Bufo japonicus (Japanese toad).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae;
OC Bufo.
OX NCBI_TaxID=8387;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RA MEDLINE=94197900; PubMed=8148042;
RA Takahashi N., Yamamoto K., Kikuyama S.;
RT "Cloning of a toad prolactin cDNA: expression of prolactin mRNA in
RT larval and adult pituitaries.";
RL J. Mol. Endocrinol. 11:343-349(1993).
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC -----
CC EMBL; S69309; AAB30425.1; -.
DR HSSP; Q28632; IAN3.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PROSITE; PS00266; SOMATOTROPIN_1; PARTIAL.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT NON_TER 1
FT DISULFID 126 134 BY SIMILARITY.
SQ SEQUENCE 134 AA; 15520 MW; D0C7BD7A26DB5544 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 134;
Best Local Similarity 40.0%; Pred. No. 16;
Matches 6; Conservative 7; Mismatches 1; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSC 14
DB 120 YLKLKRLHNGNC 134
||:::||||:|

RESULT 41.
SOML_ACIGU
ID SOML_ACIGU STANDARD; PRT; 190 AA.
AC F26773;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin I (Growth hormone I).
GN GH1.
OS Acipenser guldenstadti (Caspian sturgeon) (Russian sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenserinae; Acipenser.
OX NCBI_TaxID=7902;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Pituitary;
RX MEDLINE=92247810; PubMed=1576156;
RA Yasuda A., Yamaguchi K., Noso T., Papkoff H., Polenov A.L.,
RA Nicoll C.S., Kawauchi H.;
RT "The complete amino acid sequence of growth hormone from sturgeon
RT (Acipenser guldenstadti).";
RL Biochim. Biophys. Acta 1120:297-304(1992).
CC CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21821 MW; EAFFFOFE56181B18 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSC 14
DB 174 YLKVMKRRFVESNC 188
||:::||||:|

RESULT 42.
SOM2_ACIGU
ID SOM2_ACIGU STANDARD; PRT; 190 AA.
AC P26774;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin II (Growth hormone II).
GN GH2.
OS Acipenser guldenstadti (Caspian sturgeon) (Russian sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenserinae; Acipenser.
OX NCBI_TaxID=7902;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Pituitary;
RX MEDLINE=92247810; PubMed=1576156;
RA Yasuda A., Yamaguchi K., Noso T., Papkoff H., Polenov A.L.,
RA Nicoll C.S., Kawauchi H.;
RT "The complete amino acid sequence of growth hormone from sturgeon
RT (Acipenser guldenstadti).";
RL Biochim. Biophys. Acta 1120:297-304(1992).
CC CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21821 MW; EAFFFOFE56181B18 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSC 14
DB 174 YLKVMKRRFVESNC 188
||:::||||:|

RESULT 43.
SOMA_LABRO
```

```
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21791 MW; 7F861BDE5606FBFF CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSC 14
DB 174 YLKVMKRRFVESNC 188
||:::||||:|

RESULT 42.
SOM2_ACIGU
ID SOM2_ACIGU STANDARD; PRT; 190 AA.
AC P26774;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin II (Growth hormone II).
GN GH2.
OS Acipenser guldenstadti (Caspian sturgeon) (Russian sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenserinae; Acipenser.
OX NCBI_TaxID=7902;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Pituitary;
RX MEDLINE=92247810; PubMed=1576156;
RA Yasuda A., Yamaguchi K., Noso T., Papkoff H., Polenov A.L.,
RA Nicoll C.S., Kawauchi H.;
RT "The complete amino acid sequence of growth hormone from sturgeon
RT (Acipenser guldenstadti).";
RL Biochim. Biophys. Acta 1120:297-304(1992).
CC CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21821 MW; EAFFFOFE56181B18 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSC 14
DB 174 YLKVMKRRFVESNC 188
||:::||||:|

RESULT 43.
SOMA_LABRO
```



```

ID SOMA_LABRO STANDARD; PRT; 207 AA.
AC Q9W6J7;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH.
OS Labeo rohita (Indian major carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Cyprininae; Labeo.
OX NCBI_TaxID=84645;
RN [1]
RP SEQUENCE FROM N.A.
RA Venugopal T., Pandian T.J., Mathavan S.;
RT "Labeo rohita (Indian major carp) growth hormone cDNA, complete cds.";
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL; AF134200; AAD30540.1; -.
DR HSP; P01241; 1HWG.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 2.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 207 SOMATOTROPIN.
FT DISULFID 71 180 BY SIMILARITY.
FT DISULFID 197 205 BY SIMILARITY.
SQ SEQUENCE 207 AA; 23521 MW; 5235BA3CBFCD7A28 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 207;
Best Local Similarity 46.7%; Pred. No. 23;
Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

OY 1 YLRIVQC-RSVGSC 14
DB 191 YLRVANCRRSLDNC 205

RESULT 44
SOM1_CARAU STANDARD; PRT; 210 AA.
AC O93359;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Somatotropin I precursor (Growth hormone I).
GN GH1.
OS Carassius auratus (Goldfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Carassius.
OX NCBI_TaxID=7957;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96230236; PubMed=8651695;

```

```

RA Law M.S., Cheng K.W., Fung T.K., Chan Y.H., Yu K.L., Chan K.M.;
RT "Isolation and characterization of two distinct growth hormone cDNAs
RT from the goldfish, Carassius auratus.";
RL Arch. Biochem. Biophys. 330:19-23(1996).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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DR EMBL; AF069398; AAC19389.1; -.
DR HSP; P01241; 1HWG.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 2.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 22 BY SIMILARITY.
FT CHAIN 23 210 SOMATOTROPIN I.
FT DISULFID 71 183 BY SIMILARITY.
FT DISULFID 200 208 BY SIMILARITY.
SQ SEQUENCE 210 AA; 23759 MW; 8B68724F79046669 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 210;
Best Local Similarity 46.7%; Pred. No. 23;
Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

OY 1 YLRIVQC-RSVGSC 14
DB 194 YLRVANCRRSLDNC 208

RESULT 45
SOM2_CARAU STANDARD; PRT; 210 AA.
AC O93360;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin II precursor (Growth hormone II).
GN GH2.
OS Carassius auratus (Goldfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Carassius.
OX NCBI_TaxID=7957;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96230236; PubMed=8651695;
RA Law M.S., Cheng K.W., Fung T.K., Chan Y.H., Yu K.L., Chan K.M.;
RT "Isolation and characterization of two distinct growth hormone cDNAs
RT from the goldfish, Carassius auratus.";
RL Arch. Biochem. Biophys. 330:19-23(1996).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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 CC -----

DR EMBL; AF069399; AAC19390.1; -;  
 DR HSSP; P01241; IHUW.  
 DR InterPro; IPR001400; SOMATOTROPIN.  
 DR Pfam; PF00103; hormone. 2.  
 DR PRINTS; PR00836; SOMATOTROPIN.  
 DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
 DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
 KW Hormone; Pituitary; Signal.  
 FT SIGNAL 1 22 BY SIMILARITY.  
 FT CHAIN 23 210 SOMATOTROPIN II.  
 FT DISULFID 71 183 BY SIMILARITY.  
 FT DISULFID 200 208 BY SIMILARITY.  
 SQ SEQUENCE 210 AA; 23767 MW; 3F54F2EAABD87731 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 210;  
 Best Local Similarity 46.7%; Pred. No. 23;  
 Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQC-RSVEGSC 14  
 |||: | | | | |  
 Db 194 YLRVANCRRSLDNC 208

## RESULT 46

SOMA\_CTEID  
 ID SOMA\_CTEID STANDARD; PRT; 210 AA.  
 AC P20390; Q00220; Q00221.  
 DT 01-FEB-1991 (Rel. 17, Created)  
 DT 01-DEC-1992 (Rel. 24, Last sequence update)  
 DT 01-MAR-2002 (Rel. 41, Last annotation update)  
 DE Somatotropin precursor (Growth hormone).  
 GN GH.  
 OS Ctenopharyngodon idella (Grass carp).  
 OS Hypophthalmichthys molitrix (Silver carp), and  
 OS Hypophthalmichthys nobilis (Noble carp).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;  
 OC Cypriniformes; Cyprinidae; Ctenopharyngodon.  
 OX NCBI\_TaxID=7959, 13095, 7965;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.idella;  
 RX MEDLINE=92031700; PubMed=1932119;  
 RA HO W.K.K., Wong M.W., Chan A.P.Y.;  
 RT "Cloning and sequencing of the grass carp (Ctenopharyngodon idellus)  
 RT growth hormone gene.";  
 RL Biochim. Biophys. Acta 1090:245-248(1991).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.idella;  
 RX MEDLINE=89302103; PubMed=2742587;  
 RA HO W.K.K., Tsang W.H., Dias N.P.;  
 RT "Cloning of the grass carp growth hormone cDNA.";  
 RL Biochem. Biophys. Res. Commun. 161:1239-1243(1989).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.idella, H.molitrix, and H.nobilis; TISSUE=Pituitary;  
 RX MEDLINE=93051159; PubMed=1426941;  
 RA Chang Y.S., Liu C.S., Huang F.-L., Lo T.B.;  
 RT "The primary structures of growth hormones of three cyprinid species:  
 RT bighead carp, silver carp, and grass carp.";  
 RL Gen. Comp. Endocrinol. 87:385-393(1992).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC SPECIES=C.idella; TISSUE=Liver;  
 RX MEDLINE=92339453; PubMed=1633815;

RA Zhu Z., He L., Chen T.T.;  
 RT "Primary-structural and evolutionary analyses of the growth-hormone  
 RT gene from grass carp (Ctenopharyngodon idellus).";  
 RL Eur. J. Biochem. 207:643-648(1992).  
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
 CC CONTROL.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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DR EMBL; M27094; AAA58724.1; -;  
 DR EMBL; X60419; CAA42948.1; -;  
 DR EMBL; X60474; CAA43007.1; -;  
 DR EMBL; X60988; CAA43304.1; -;  
 DR EMBL; X60475; CAA43008.1; -;  
 DR EMBL; X60473; CAA43006.1; -;  
 DR PIR; A32424; A32424.  
 DR PIR; S18402; S18402.  
 DR PIR; S21898; S21898.  
 DR PIR; S21910; S21910.  
 DR PIR; S24371; S24371.  
 DR PIR; S32707; S32707.  
 DR PIR; S21915; S21915.  
 DR HSSP; P01241; IHUW.  
 DR InterPro; IPR001400; SOMATOTROPIN.  
 DR Pfam; PF00103; hormone. 2.  
 DR PRINTS; PR00836; SOMATOTROPIN.  
 DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
 DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
 KW Hormone; Pituitary; Signal.  
 FT SIGNAL 1 23 BY SIMILARITY.  
 FT CHAIN 24 210 SOMATOTROPIN.  
 FT DISULFID 71 183 BY SIMILARITY.  
 FT DISULFID 200 208 BY SIMILARITY.  
 FT CONFLICT 73 73 S -> C (IN REF. 2 AND 3).  
 FT CONFLICT 112 112 S -> R (IN REF. 3).  
 FT CONFLICT 114 114 A -> Q (IN REF. 2 AND 3).  
 SQ SEQUENCE 210 AA; 23580 MW; 98A8B3FECD52D098 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 210;  
 Best Local Similarity 46.7%; Pred. No. 23;  
 Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQC-RSVEGSC 14  
 |||: | | | | |  
 Db 194 YLRVANCRRSLDNC 208

## RESULT 47

SOMA\_CYPEA  
 ID SOMA\_CYPEA STANDARD; PRT; 210 AA.  
 AC P10298;  
 DT 01-MAR-1989 (Rel. 10, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 01-MAR-1992 (Rel. 21, Last annotation update)  
 DE Somatotropin precursor (Growth hormone).  
 GN GH.  
 OS Cyprinus carpio (Common carp).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;  
 OC Cypriniformes; Cyprinidae; Cyprinus.  
 OX NCBI\_TaxID=7962;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=90381321; PubMed=2400791;

RA Chiou C.S., Chen H.T., Chang W.-C.;  
RT "The complete nucleotide sequence of the growth-hormone gene from the  
RT common carp (*Cyprinus carpio*).";  
RL Biochim. Biophys. Acta 1087:91-94(1990).  
[2]  
RN SEQUENCE FROM N.A.  
RP TISSUE=Pituitary;  
RC MEDLINE=89326147; PubMed=2753359;  
RX Koren V., Sarid S., Ber R., Daniel V.;  
RA "Carp growth hormone: molecular cloning and sequencing of cDNA.";  
RL Gene 77:309-315(1989).  
[3]  
RN SEQUENCE FROM N.A., AND SEQUENCE OF 24-56.  
RP TISSUE=Pituitary;  
RC MEDLINE=89150258; PubMed=2920175;  
RX Chao S.-C., Pan F.-M., Chang W.-C.;  
RA "Purification of carp growth hormone and cloning of the complementary  
RT DNA.";  
RL Biochim. Biophys. Acta 1007:233-236(1989).  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CC CONTROL.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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CC  
DR EMBL; X51969; CAA36228.1; -  
DR EMBL; M27000; AAA49208.1; -  
DR EMBL; X13670; CAA31963.1; -  
DR EMBL; S02764; S02764.  
DR PIR; JS0180; JS0180.  
DR PIR; S11387; S11387.  
DR HSSP; P01241; 1HUW.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 23  
FT CHAIN 24 210 SOMATOTROPIN.  
FT DISULFID 71 183 BY SIMILARITY.  
FT CONFLICT 4 4 V -> A (IN REF. 3).  
FT CONFLICT 80 80 A -> T (IN REF. 3).  
FT CONFLICT 99 99 H -> R (IN REF. 3).  
FT CONFLICT 110 110 S -> T (IN REF. 3).  
FT CONFLICT 127 127 L -> I (IN REF. 3).  
FT CONFLICT 143 144 QA -> KG (IN REF. 3).  
SQ SEQUENCE 210 AA; 23765 MW; CQF55D2D5A03E763 CRC64;  
  
Query Match 45.4%; Score 39.5; DB 1; Length 210;  
Best Local Similarity 46.7%; Pred. No. 23;  
Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;  
  
QY 1 YLRIVOC-RSVEGSC 14  
|||: | ||:: |  
Db 194 YLRVNCRRSLDNC 208  
  
RESULT 48  
SOMA\_MISMI  
ID SOMA\_MISMI STANDARD; PRT; 210 AA.  
AC Q9W6J5;  
DT 01-MAR-2002 (Rel. 41, Created)  
DT 01-MAR-2002 (Rel. 41, Last sequence update)

DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH.  
OS Misgurnus mizolepis (Mud loach).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;  
OC Cypriniformes; Cobitidae; Misgurnus.  
OX NCBI\_TaxID=93600;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Noh J.K., Cho K.N., Nam Y.K., Kim D.S., Im H.S., Lee H.H., Kim C.G.;  
RT "Genomic organization and sequence of the Mud loach (*Misgurnus*  
RT *mizolepis*) growth hormone gene: a comparative analysis of teleost  
RT growth hormone genes.";  
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC  
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT  
CC FOR SEAWATER ADAPTATION.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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CC  
DR EMBL; AF133815; AAD31845.1; -  
DR HSSP; P01241; 1HUW.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 2.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 22 POTENTIAL.  
FT CHAIN 23 210 SOMATOTROPIN.  
FT DISULFID 71 183 BY SIMILARITY.  
FT DISULFID 200 208 BY SIMILARITY.  
SQ SEQUENCE 210 AA; 23596 MW; 13146619F65FE9D3 CRC64;  
  
Query Match 45.4%; Score 39.5; DB 1; Length 210;  
Best Local Similarity 46.7%; Pred. No. 23;  
Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;  
  
QY 1 YLRIVOC-RSVEGSC 14  
|||: | ||:: |  
Db 194 YLRVNCRRSLDNC 208  
  
RESULT 49  
SOMA\_LEPOS  
ID SOMA\_LEPOS STANDARD; PRT; 211 AA.  
AC P79885;  
DT 01-NOV-1997 (Rel. 35, Created)  
DT 01-NOV-1997 (Rel. 35, Last sequence update)  
DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH.  
OS Lepisosteus osseus (Long-nosed gar).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Actinopterygii; Neopterygii; Semionotiformes; Lepisosteidae;  
OC Lepisosteus.  
OX NCBI\_TaxID=34771;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary;  
RX MEDLINE=96280123; PubMed=8672235;  
RA Rubin D.A., Youson J.H., Marra L.E., Dores R.M.;

RT \*Cloning of a gar (Lepisosteus osseus) GH cDNA: trends in  
RT actinopterygian GH structure.";  
RL J. Mol. Endocrinol. 16:73-80(1996).  
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC  
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT  
CC FOR SEAWATER ADAPTATION.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
CC  
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CC  
CC EMBL; S82528; AAB37388.1; -.  
DR HSSP; P01246; 1BST.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 23 POTENTIAL.  
FT CHAIN 24 211 SOMATOTROPIN.  
FT DISULFID 73 184 BY SIMILARITY.  
FT DISULFID 201 209 BY SIMILARITY.  
FT SEQUENCE 211 AA; 23998 MW; 85F55990954ED9EB CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 211;  
Best Local Similarity 46.7%; Pred. No. 23;  
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

OY 1 YLRIVQCRS-VEGSC 14  
||:::| | | | |  
Db 195 YLKVMKCRFEVSN C 209

RESULT 50  
SOMA\_BUFMA  
ID SOMA\_BUFMA STANDARD; PRT; 213 AA.  
AC O73849;  
DT 01-MAR-2002 (Rel. 41, Created)  
DT 01-MAR-2002 (Rel. 41, Last sequence update)  
DT 01-MAR-2002 (Rel. 41, Last annotation update)  
DE Somatotropin precursor (Growth hormone).  
GN GH.  
OS Bufo marinus (Giant toad) (Cane toad).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae; Bufo.  
OX NCBI\_TaxID=8386;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Pituitary.  
RA May D., Alrubaian J., Patel S., Dore R.M., Rand-Weaver M.;  
RT "Studies on the GH/SL gene family: cloning of African lungfish  
RT (Protopterus annectens) growth hormone and somatolactin and toad (Bufo  
RT marinus) growth hormone.";  
RL Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.  
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH  
CC CONTROL.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.  
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DR EMBL; AF062746; AAC16497.1; -.  
DR HSSP; P01241; IHUM.  
DR InterPro; IPR001400; SOMATOTROPIN.  
DR Pfam; PF00103; hormone; 1.  
DR PRINTS; PR00836; SOMATOTROPIN.  
DR PROSITE; PS00266; SOMATOTROPIN\_1; 1.  
DR PROSITE; PS00338; SOMATOTROPIN\_2; 1.  
KW Hormone; Pituitary; Signal.  
FT SIGNAL 1 25 POTENTIAL.  
FT CHAIN 26 213 SOMATOTROPIN.  
FT DISULFID 77 186 BY SIMILARITY.  
FT DISULFID 203 211 BY SIMILARITY.  
FT SEQUENCE 213 AA; 24556 MW; CB24A0F31BB0DEFF CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 213;  
Best Local Similarity 46.7%; Pred. No. 24;  
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

OY 1 YLRIVQCRS-VEGSC 14  
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Db 197 YLKVMKCRFEVSN C 211

Search completed: July 10, 2002, 08:29:04  
Job time: 201 sec



